AN ENCYCLOPÆDIA OF GARDENING

WITH ADDENDA.

AN

ENCYCLOPÆDIA

OF

GARDENING,

A DICTIONARY OF CULTIVATED PLANTS, ETC.,

GIVING AN EPITOME OF THE CULTURE OF ALL THE KINDS
OF TREES, SHRUBS, FLOWERS, VEGETABLES AND
FRUIT GENERALLY GROWN IN GARDENS IN
THIS COUNTRY, TOGETHER WITH THEIR
COMMON OR POPULAR NAMES.

BY

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AMATEUR'S GREENHOUSE, ROSES AND THEIR CULTIVATION, VEGETABLES
AND THEIR CULTIVATION, THE BOOK OF THE POTATO, *etc.*

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PREFACE.

GARDENING Dictionaries and Encyclopædias have long occupied a leading position in garden literature, and have undoubtedly proved of great value to the advanced horticulturist as works of reference. But, good as they are, the majority of them are too expensive, too ponderous, and too scientific to be easily accessible or of really practical service to the many thousands of persons who have had but little experience in gardening.

Having recognised the great need of an inexpensive book that would be within the means of the humblest amateur, and, at the same time, provide in the smallest compass an epitome of the fullest and most minute practical details essential for the successful cultivation of trees, shrubs, plants, fruits, and vegetables commonly grown in this country, the Author decided some years ago to meet this want by compiling the present volume. It was his original intention to have included gardening terms and other useful information in the volume, but he found it impossible to do so and keep the latter within reasonable bounds. The present volume has, therefore, been confined exclusively to the cultural details requisite for each genus of plants, etc., and to a comprehensive list of common names. Botanical details, apart from the natural order of each genus, have been excluded in order to economise space and enable the fullest cultural facts to be given. The date of introduction into Britain of the first foreign species of each genus has been furnished as far as it could be done with certainty, together with the native habitat, average height, prevailing colours of flowers and periods of blooming, and the number of species in general cultivation. The cultural details embrace the soils, composts, positions, times of planting, pruning, potting, and sowing, temperatures, watering, manures and methods of propagation required by each genus, and also, where necessary, by each species. These details are not furnished in such a precise manner in other dictionaries; therefore, it is hoped they will prove of great service to the amateur gardener of limited experience and leisure.

The Author desires to say that he does not profess to have included all the genera of plants known to be in existence. His aim has been to include those only that are in general cultivation and to be found in trade catalogues. New kinds are being constantly introduced, and older ones found, after further experience, to be worthy of general culture. These have been added, and are included in a 22-page Addenda (see page 433). In a few instances some of the genera, such as Pelargonium, will be found out of their proper sequence. These will, however, be readily found on a preceding or succeeding page.

It is very gratifying to the Author to know that this work has met with such popularity at the hands of the gardening public as to necessitate a Tenth Edition being printed. He trusts the present Edition will meet with similar favour.

T. W. S.

London, 1907.

ENCYCLOPÆDIA OF GARDENING.

Aar (*Alnus glutinosa*)—see Alnus.

Aaron (*Arum maculatum*)—see Arum.

Aaron's Beard (*Hypericum calycinum* & *Saxifraga sarmentosa* —see Hypericum & Saxifraga.

Aaron's Rod (*Verbascum Thapsus*)—see Verbascum.

Abchasian Hellebore—see *Helleborus abchasicus.*

Abele Tree (*Populus alba*)—see Populus.

Abelia.—*Ord.* Caprifoliaceæ. Half-hardy flowering shrubs. Evergreen and deciduous, *Nat.* India, China, Mexico, Japan. *Int.* 1842. *Species* cultivated, 5. *Ht.* 3 to 5 ft. *Flowers*, rose, pink, white, red; Mar. to Sept. *Compost*, equal parts peat, loam, sand. *Position*, warm, sheltered, outdoors, or cool greenhouse. *Plant*, Ap. or Oct. *Propagate* by layers in Mar., or cuttings of firm shoots in cold frame July.

Abies (Deal, Fir, Spruce).—*Ord.* Coniferæ. Hardy conifers. *Nat.* N. and S. America, Mexico, Siberia, Crimea, Japan, Spain. *Int.* 1696. *Species* cultivated, 18. *Ht.* 2 to 180 ft. *Soil*, sandy loam. *Position*, high, dry, open, from sea-coast. *Plant*, Oct. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy loam, temp. 55°, Mar., or outdoors in Ap.

Abobra (Scarlet-fruited).—*Ord.* Cucurbitaceæ. Half-hardy climbing tuberous-rooted, perennial. Deciduous. *Nat.* Brazil. *Species* cultivated, 1. *Flowers*, green; June, July. *Fruit*, egg-shaped, scarlet; Sept. & Oct. *Ht.* 6 ft. *Soil*, sandy. *Position*, south wall. *Plant*, June; lift tubers Oct. & store in frost-proof place. *Propagate* by seeds sown in leaf-mould, loam & sand, temp. 65°, Mar.

Abram of Mamre Oak (*Quercus pseudo-coccifera*)—see Quercus.

Abroma.—*Ord.* Sterculiaceæ. Stove-flowering plants. Evergreen. *Nat.* E. Indies, N. Holland, Madagascar. *Int.* 1770. *Species* cultivated, 2. *Flowers*, purple; June to Oct. *Ht.* 8 to 10 ft. *Compost*, equal parts loam, peat, sand. *Pot & prune*, Mar. *Water* freely in sum., moderately in winter. *Temp.* Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep, or cuttings of firm shoots, in fine sandy soil, Mar., temp. 65° to 75°.

Abronia (Sand Verbena).—*Ord.* Nyctaginiaceæ. Half-hardy trailing annual & perennials. *Nat.* California. *Int.* 1823. *Species* cultivated, 3. *Flowers*, orange, pink, sunny Ap. to Aug. *Ht.* 6 to 24 in. *Soil*, sandy loam. *Position*, exposed white; rockery or elevated warm border. *Plant*, June. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil, temp. 55° to 65°, Mar.; perennials by cuttings of young shoots in similar soil & temp. *A. umbellata*, good greenhouse plant.

Abrus (Paternoster, Rosary Pea, Wild Liquorice, Weather Plant).—*Ord.* Leguminosæ. Stove climber. Orn. foliage. Deciduous. *Nat.* E. Indies. *Int.* 1680. *Species* cultivated, 1. *Ht.* 9 to 12 ft. *Flowers*, pea-shaped, pale purple; Mar. to May. *Seeds*, scarlet. *Compost*, two parts loam, one part peat & sand. *Pot & prune*, Mar. *Water* freely spring & sum., moderately

in autn. & winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown ¼ in. deep, or cuttings of firm shoots, in sandy loam, temp. 75° to 85°, Feb.

Absinth (*Artemisia absinthum*)—see Artemisia.

Abutilon (Indian Mallow).—*Ord.* Malvaceæ. Greenhouse shrubby plants. Evergreen. *Nat.* N. Grenada, W. Indies, S. America. *Species* cultivated, 8. *Ht.* 5 to 12ft. *Flowers*, crimson, red, yellow, white; Mar. to Dec. *Compost*, two parts loam, one part peat & sand. *Pot & prune*, Mar. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Water* freely in spring and sum., moderately autn. & winter. *Propagate* by seeds sown ⅛ in. deep, or cuttings in light rich soil, temp. 70°, Mar.

Abyssinian Banana (*Musa ensete*)—see Musa.

Abyssinian Myrrh (*Acacia sassa*)—see Acacia.

Abyssinian Primrose (*Primula verticillata*)—see Primula.

Acacia (Wattle, Gum, Myrrh trees).—*Ord.* Leguminosæ. Stove and greenhouse flowering plants. Evergreen. *Nat.* Australia, E. Indies, S. America. *Int.* 1656. *Species* cultivated, 25. *Ht.* 3 to 20 ft. *Flowers*, yellow, white, red; Feb. to Sept. *Compost*, equal parts peat, loam, sand. *Pot & prune*, Feb. or Mar. *Water* freely in spring & sum., moderately in autn. & winter. *Temp.*, Mar. to Sept. for greenhouse species 55° to 65°, stove species 70° to 85°; Sept. to Mar. for greenhouse species 50° to 55°, stove species 60° to 65°. *Propagate* by seeds sown ⅛ in. deep, or cuttings of firm shoots, in sandy peat, well-drained pots, temp. 75° to 85°, Mar.

Acæna (New Zealand Bur). — *Ord.* Rosaceæ. Hardy herbaceous trailing perennials. Evergreen. *Nat.* N. Zealand, Chili. *Int.* 1828. *Ht.* 1 to 12 in. *Species* cultivated, 4. *Soil*, sandy loam. *Position*, moist, open, or shady rockery. *Plant*, Oct. to Ap. *Propagate* by seeds sown 1/16 in. deep in Mar., temp. 65°; cuttings in cold frame in Aug.; division of roots in Ap., all in sandy soil.

Acalypha (Three-seeded Mercury, Copper-leaf).—*Ord.* Euphorbiaceæ. Stove Plants. Orn. foliage. Evergreen. *Nat.* Polynesia, N. Hebrides, Fiji. *Int.* 1866. *Ht.* 6 to 12 ft. *Species* cultivated, 4. *Leaves*, orange, red, green, crimson. *Compost*, equal parts leaf-mould, peat, loam, sand. *Pot & prune*, Feb. or Mar. *Water* freely in spring & sum., moderately in autn. & winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 65°. *Propagate* by cuttings in sandy soil, temp. 80°, Feb. or Mar.

Acantholimon (Prickly Thrift).—*Ord.* Plantiginaceæ. Hardy perennials. Evergreen. *Nat.* Armenia, Cilicia, Syria, Persia. *Int.* 1851. *Species* cultivated, 2. *Ht.* 3 in. *Flowers*, rose, white; June, July, Aug. *Soil*, sandy loam. *Position*, sunny rockery or warm border. *Plant*, Oct. to Ap. *Propagate* by layering shoots in Aug. similar to Carnations.

Acanthophœnix (Prickly Date Palm). — *Ord.* Palmaceæ. Stove Plants. Orn. foliage. Evergreen. *Nat.* Seychelles. *Int.* 1833. *Species* cultivated, 2. *Ht.* 6 to 12 ft. *Compost*, two parts peat, one part loam & sand. *Repot*, Feb. *Water* freely in sum., moderately other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in light soil, temp. 80°, Feb. or Mar.

Acanthorhiza.—*Ord.* Palmaceæ. Stove Palms. Orn. foliage. Evergreen. *Nat.* Mexico, Central America. *Int.* 1879. *Species* cultivated, 2. *Ht.* 10 to 15 ft. *Compost*, two parts loam, one part leaf-mould & sand. *Repot*, Feb. *Water* moderately in sum., very little other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* like *Acanthophœnix*.

Acanthus (Bear's Breech).—*Ord.* Acanthaceæ. Hardy herbaceous perennials. Orn. foliage. Deciduous. *Nat.* Italy, Spain, Portugal, Cape of Good Hope. *Int.* 1548. *Species* cultivated, 9. *Ht.* 2 to 3 ft. *Flowers*, purple, blue, white, rose; June to Aug. *Soil*, sandy loam. *Position*, warm sheltered border. *Plant*, Oct. to Ap. *Propagate* by seeds sown ⅛ in. deep in light soil, temp. 65°, Feb., or in warm position outdoors Mar.; division of roots Nov. and Mar.

Acer (Maple).—*Ord.* Sapindaceæ. Hardy trees. Orn. foliage. Deciduous and Evergreen. *Nat.* India, Britain, Turkestan, California, N. America, Japan, Caucasus, S. Europe. *Int.* (foreign species) 1383. *Species* cultivated, 32. *Ht.* 4 to 60 ft. *Soil*, well-drained loam. *Position*, shrubberies or open spaces; Japanese kinds in warm borders or in pots in cool greenhouse. *Plant*, Oct. to Mar. *Propagate* by seeds sown ½ in. deep in sheltered position Oct.; grafting Mar. budding Aug.; layering Oct.

Aceras (Green-man Orchis). — *Ord.* Orchidaceæ. Hardy terrestrial tuberous rooted, orchid. Deciduous. *Nat.* Britain. *Species* cultivated, 1. *Ht.* 10 in. *Flowers*, green, red; June to Aug. *Soil*, chalky loam. *Position*, open and dry. *Plant*, Oct. to Mar. *Propagate* by division of tubers Oct. or Mar.

Achillea (Milfoil or Yarrow). —*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Britain, America, Europe. *Int.* (foreign species) 1596. *Species* cultivated, 49. *Ht.* 6 to 24 in. *Flowers*, white, yellow; May to Sept. *Soil*, ordinary. *Position*, dwarf on rockery, tall in open borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown ¼ in. deep in warm position outdoors Ap.; cuttings under handlights or in cold frame Sept.; division of roots Nov. or Mar.

Achimenes.—*Ord.* Gesneraceæ. Stove tuberous-rooted perennials. Deciduous. *Nat.* Guatemala, Mexico, Jamaica. *Int.* 1778. *Species* cultivated, 16. *Ht.* 6 to 24 in. *Flowers*, crimson, red, white, purple, yellow, blue, rose; Ap. to Aug. *Compost*, two parts peat & loam, one part leaf-mould, sheep manure & sand. *Pot* tubers in Feb., 1 in. apart, 2 in. deep, in well-drained 5-in. pots. *Water* moderately at first, freely when in growth. After flowering gradually withhold water from roots, & when foliage dies place pots on their sides in greenhouse, letting them remain till Feb. *Temp.*, Feb. to Sept. 70° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by seeds sown ⅛ in. deep in light soil, temp. 70° to 80°, Mar.; cuttings of young shoots & leaves Ap.; division of tubers Feb.

Acineta.—*Ord.* Orchidaceæ. Stove epiphytal orchids. Evergreen. *Nat.* S. America, Mexico. *Int.* 1837. *Species* cultivated, 8. *Ht.* 6 to 12 in. *Flowers*, yellow, crimson, brown, white, fragrant; Mar. to Sept. *Compost*, equal parts sphagnum moss & peat. *Position*, suspended baskets. *Pot*, Feb. *Water* freely when growing, none at other times. *Temp.*, Mar. to Sept. 70° to 75°; Sept. to Mar. 60° to 65°. *Propagate* by division of pseudo-bulbs Feb.

Aciphylla (Spear-grass or Bayonet Plant). — *Ord.* Umbelliferæ. Hardy perennials. Evergreen. *Nat.* N. Zealand. *Int.* 1875. *Species* cultivated, 2. *Ht.* 1 to 6 ft *Flowers*, white; June, July, Aug. *Soil*, sandy loam. *Position*, open rockery. *Plant*, Oct. to Ap. *Propagate* by seeds sown ½ in. deep in pans in cold frame, or warm position outdoors Ap.; division of roots Mar.

Acis.—*Ord.* Amaryllidaceæ. Hardy bulbous perennials. Deciduous. *Nat.* Portugal, Corsica, Spain. *Int.* 1629. *Species* cultivated, 5. *Ht.* 3 to 6 in. *Flowers*, white, pink, rose; Jan., Aug., Sept. *Soil*, light sandy. *Position*, sunny rockery or warm border. *Plant*, spring-flowering species Sept., others June; bulbs 2 in. deep, 1 in apart. *Propagate* by dividing bulbs at planting time. Lift & replant bulbs every third year.

Acmena.—*Ord.* Myrtaceæ. Greenhouse flowering shrubs. Evergreen *Nat.* N. Holland. *Int.* 1790. *Species* cultivated, 2. *Ht.* 2 to 4 ft. *Flowers*, white; Ap. to Aug. *Fruit*, purple berries; autumn. *Compost*, equal parts peat and loam, little sand. *Pot*, Mar. *Water* moderately spring & sum., little other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of half-ripened shoots in sandy peat under bell-glass, temp. 55°, Mar.

Aconite (*Aconitum napellus*)—see Aconitum.

Aconitum (Aconite, Wolf's-bane, Monk's-hood).—*Ord.* Ranunculacæ. Hardy herbaceous perennials. Deciduous. *Nat.* N. America, N. Asia, S. Europe. *Int.* 1596. Species cultivated, 6. *Ht.* 2 to 6 ft. *Flowers*, purple, blue, cream, yellow; June, July, Aug. *Soil*, ordinary. *Position*, partially shaded borders. *Plant*, Oct. to Mar. *Propagate* by seeds sown ½ in. deep in warm position outdoors Ap., or in boxes light soil in cold frame Mar.; division of fleshy roots Nov. or Mar.

Acorus (Sweet Flag, Myrtle Grass).—*Ord.* Aroideæ. Hardy aquatics. Evergreen. *Nat.* Europe, China. *Int.* 1796. *Ht.* 3 ft. *Species* cultivated, 2. *Flowers*, yellow; June, July, Aug. *Soil*, muddy. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by division of roots Mar.

Acroclineum (Australian Everlasting Flower).—*Ord.* Compositæ Half-hardy annual. *Nat.* Australia. *Int.* 1854. *Species* cultivated, 1. *Ht.* 1 to 2 ft. *Flowers*, rose, white; June to Sept. *Soil*, light rich. *Position*, warm outdoors; pots in sunny frame or greenhouse. *Water* moderately. *Propagate* by seeds sown ¼ in. deep in light sandy soil, temp. 65°, Mar. or Ap.

Acrid Lobelia (*Lobelia urens*)—see Lobelia.

Acrophyllum.—*Ord.* Cunoniaceæ. Greenhouse flowering shrub Evergreen. *Nat.* N. S. Wales. *Species* cultivated, 1. *Ht.* 5 to 6 ft. *Flowers*, pink; Mar. to June. *Compost*, equal parts peat & loam, little sand. *Pot and prune*, Feb. *Water* freely spring & sum., moderately other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of firm shoots in sandy peat under bell-glass July.

Acrostichum. —*Ord.* Filices. Stove and greenhouse fern. Evergreen. *Nat.* Brazil, W. Indies, Himalayas, Mexico, S. America. *Int.* 1793. *Species* cultivated, 42. *Ht.* 1 to 6 ft. *Compost*, equal parts peat, loam & leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely spring & sum., moderately other times. *Temp.*, stove species, Mar. to Sept. 70° to 85°, Sept. to Mar. 60° to 65°; greenhouse species, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by division of roots at potting time, or by spores similar to *Adiantum*.

Actæa.—(Bug-bane, Toad-root, Snake-root, Bane-berry, Herb Christopher).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* America, England. *Species* cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, white, red; June to Aug. *Berries*, red, white & black, poisonous. *Soil*, ordinary. *Position*, shady border. *Plant*, Oct. to Mar. *Propagate* by seeds sown in garden Ap.; division of roots Mar.

Actinella (Pigmy or Dwarf Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Colorado. *Species* cultivated, 1. *Ht.* 6 to 12 in. *Flowers*, yellow; June to Aug. *Soil*, light sandy. *Position*, rockery or open border. *Plant*, Oct. to Mar. *Propagate* by division of roots in Mar.

Actinidia.—*Ord.* Ternstrœmiaceæ. Hardy climbing shrubs. Deciduous. *Nat.* Asia, Japan. *Species* cultivated, 3. *Flowers*, white, fragrant; June to Aug. *Soil*, light rich loam. *Position*, south or south-west wall. *Plant*, Oct. to Mar. *Propagate* by seeds sown in pots in cold frame Ap.; layering shoots Nov.

Actiniopteris.—*Ord.* Filices. Stove ferns. Evergreen. *Nat.* India. *Int.* 1896. *Species* cultivated, 2. *Ht.* 3 to 6 in. *Compost*, equal parts peat, loam, charcoal, potsherds & silver sand. *Pot*, Feb. or Mar. Good drainage and clean pots essential. *Water* moderately all seasons & keep atmosphere moist. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 70°. *Propagate* by spores similar to *Adiantum*.

Actinomeris (North American Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1640. *Species* cultivated, 3. *Ht.* 3 to 8 ft. *Flowers*, yellow; July to Sept. *Soil*, ordinary. *Position*, open border. *Plant*, Oct. to Ap. *Propagate* by seeds sown ⅛ in. deep outdoors Ap.; division of roots Mar.

Acute-leaved Andromeda (*Andromeda acuminata*)—see Andromeda,

Acute-leaved Maple (*Acer acuminatum*)—see Acer.

Ada.—*Ord.* Orchidaceæ. Greenhouse orchid. Evergreen. *Nat.* N. Grenada. *Species* cultivated, 1. *Ht.* 6 to 8 in. *Flowers*, orange, scarlet; Dec. to Mar. *Compost*, equal parts peat & sphagnum moss. *Repot* when new growth begins. *Water* freely during season of growth, moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by dividing plant at potting time.

Adam's Apple (*Citrus limetta*)—see Citrus.

Adam's Fig-Tree (*Musa paradisica*)—see Musa.

Adam's Flannel (*Verbascum Thapsus*)—see Verbascum.

Adam's Laburnum-Tree (*Cytisus*)—see Cytisus.

Adam's Needle (*Yucca gloriosa*)—see Yucca.

Adam's Needle and Thread (*Yucca filamentosa*)—see Yucca.

Adder's Fern (*Polypodium vulgare*)—see Polypodium.

Adder's Flower (*Lychnis diurna*)—see Lychnis.

Adder-Spit (*Pteris aquilina*)—see Pteris.

Adder-Wort (*Polygonum Bistorta*)—see Polygonum.

Adder's Tongue (*Ophioglossum vulgatum*)—see Ophioglossum.

Adder's Violet (*Goodyera pubescens*)—see Goodyera.

Adenandra.—*Ord.* Rutaceæ. Greenhouse flowering shrubs. *Nat.* Cape of Good Hope. *Species* cultivated, 9. *Int.* 1720. *Ht.* 1 to 2 ft. *Flowers*, white, red, pink, rose; May to June. *Compost*, equal parts loam, peat and sand. *Pot*, Mar. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of young shoots in sandy peat under bell-glass, Mar.

Adenophora (Gland Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Dahuria, Siberia, Eastern Europe. *Int.* 1783. *Species* cultivated, 10. *Ht.* 3 in. to 3 ft. *Flowers*, blue; May to Aug. *Soil*, ordinary. *Position*, sunny, well-drained border. *Plant*, Oct. to Nov. *Propagate* by seeds sown in Mar., in pots or pans in cold frame.

Adiantum (Maidenhair Fern).—*Ord.* Filices. Stove, greenhouse, and hardy ferns. Evergreen. *Nat.* Jamaica, Peru, W. Indies, Madeira, Bolivia, New Grenada, Trop. America, Mexico, China, India, Britain, New Zealand, Brazil, Spain, Bermuda, Europe. *Int.* (foreign species) 1793. *Species* cultivated, 65. *Ht.* 4 in. to 3 ft. *Compost*, two parts peat, one part loam, silver sand, charcoal. *Pot*, Mar. *Water* moderately Sept. to Mar., freely afterwards. *Position*, shady at all times. *Plant* hardy species in Ap in equal parts peat & loam in shady position. *Temp.*, stove species, Sept to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse species, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on fine sandy peat kept moist & shaded under bell-glass.

Adlumia (Climbing Fumitory).—*Ord.* Fumariaceæ. Hardy biennial. Climber. *Nat.* N. America. *Int.* 1788. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, rose; June. *Soil*, light, rich. *Position*, warm border against south wall. *Plant*, May. *Propagate* by seeds sown ⅛ in. deep in border in Ap., or in pots in temp. 55° to 65°, Mar.

Adonis Flower (*Adonis autumnalis*)—see Adonis.

Adonis-leaved Groundsel (*Senecio adonifolius*)—see Senecio.

Adonis (Pheasant's Eye).—*Ord.* Ranunculaceæ. Hardy annuals and perennial. *Nat.* Britain, Pyrenees, Russia. *Int.* (foreign species) 1629. *Species* cultivated, 4. *Ht.* 9 to 12 in. *Flowers*, crimson, yellow, red; Mar. to June. *Soil*, ordinary, rich. *Position*, open border for annuals, & rockeries for perennials. *Plant*, Oct. *Propagate* annuals by seeds sown shallow in borders in Mar.; perennials by division of roots in Oct. & by seeds sown as directed for annuals.

Æchmea.—*Ord.* Bromeliaceæ. Evergreen stove-flowering plants. *Nat.*

Bazil, Columbia, Costa Rica, Trop. America, Cayenne, W. Indies. *Int.* 1824, *Species* cultivated, 18. *Ht.* 9 to 12 in. *Flowers*, yellow, blue, scarlet, rose. red, violet; winter. *Compost*, equal parts of fibrous loam, rough peat, leaf-mould. *Pot*, Mar. *Water* freely always. Good drainage essential. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Ærides (Air-plant).—*Ord.* Orchidaceæ. Stove-flowering orchids. Evergreen *Nat.* Burmah, Cochin China, Assam, E. Indies, Phillipines, Malacca, Bombay. *Int.* 1800. *Species* cultivated, 20. *Flowers*, white, rose, purple, fragrant; Dec. to June. *Compost*, sphagnum moss, charcoal, broken potsherds. *Position*, pots, hanging baskets, or pieces of wood. *Pot*, after flowering. *Water* moderately in winter, freely other times. Shade from sun. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 85°. *Propagate* by division of plant with roots attached.

Æschynanthus (Blush-wort).—*Ord.* Gesneriaceæ. Stove trailing and flowering shurbs. Evergreen. *Nat.* Borneo, Java. *Int.* 1838. *Species* cultivated, 13. *Ht.* 1 to 2 ft. *Flowers*, red, orange, scarlet, crimson; May to Oct. *Compost*, equal parts fibrous peat, sphagnum moss, charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely in summer, moderately in winter. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings 3 in. long of firm shoots, inserted in pots of above compost mixed with sand in temp. 85°, Feb.

Æsculus (Horse Chestnut).—*Ord.* Sapindaceæ. Hardy trees. Deciduous. Flowering. *Nat.* Asia, N. America. *Int.* 1629. *Species* cultivated, 3. *Ht.* 20 to 40 ft. *Soil*, ordinary, deep. *Position*, shrubberies, woods, lawns, parks. *Plant*, Oct. to Mar. *Prune* straggling shoots in Nov. *Propagate* by seeds sown 3 in. deep in open border, Mar.; layering, Feb.; grafting, Mar.; budding, July.

Æthionema (Candy Mustard, Lebanon Candytuft).—*Ord.* Cruciferæ. Hardy perennials and annuals. Perennials evergreen. *Nat.* Asia, Mount Lebanon, Spain. *Int.* 1778. *Species* cultivated, 4. *Ht.* 3 to 18 in. *Flowers*, red, lilac, purple, rose; May to Aug. *Soil*, ordinary, light. *Position*, sunny rockery, well drained. *Plant*, Oct. or Mar. *Propagate* annuals by seeds sown $\frac{1}{16}$ in. deep in boxes, temp. 65°, Mar., or in open border, May; perennials by cuttings of shoots inserted in pots of sandy soil in cold frame, July or Aug.

African Blue Lily (*Agapanthus umbellatus*)—see Agapanthus.

African Corn Lily (*Ixia*)—see Ixia.

African Hare-Bell (*Roella ciliata*)—see Roella.

African Hemp (*Sparmannia africana*)—see Sparmannia.

African Marigold (*Tagetes erecta*)—see Tagetes.

African Myrtle (*Myrtus africana*)—see Myrtus.

African Oak (*Laurus bullata*)—see Laurus.

African Sleet-Bush (*Diosma alba*)—see Diosma.

African Tea-Plant (*Lycium afrum*)—see Lycium.

African Tulip (*Hœmanthus*)—see Hœmanthus.

African Wormwood (*Artemisia afra*)—see Artemisia.

Agalmyla (Scarlet Root-blossom).—*Ord.* Gesneriaceæ. Stove trailing plant. Evergreen. *Nat.* Java. *Int.* 1846. *Species* cultivated, 1. *Flowers*, scarlet; May to Sept. *Compost*, equal parts peat, sphagnum moss & charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely Mar. to Sept., moderately Sept. to Mar. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots under bell-glass, in temp. 80°, July or Aug.

Aganisia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Demerara, Brazil. *Species* cultivated, 3. *Ht.* 8 to 10 in. *Flowers*, blue, white, yellow all times. *Compost*, fibry peat, charcoal. *Position*, pots well drained, blocks of wood. *Shade* from sun essential. *Water* freely when growing, moderately when at rest. *Temp.*, Sept. to Mar. 65° to 70°; Mar. to Sept. 75° to 85°. *Propagate* by division of pseudo-bulbs when new growth begins.

Agapanthus (African Lily).—*Ord.* Liliaceæ. Cool greenhouse herbaceous plant. Hardy S. England, Ireland. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1692. *Species* cultivated, 1; varieties, 8. *Flowers*, blue. white; June to Sept. *Compost*, two parts loam, one part leaf-mould, dried cow-manure, river sand pots or tubs, greenhouse; sunny. *Position*, well drained border or rockery out-doors. *Pot* or plant, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, greenhouse, Sept. to Mar. 32° to 40°; Mar to Sept. 45° to 55°. *Propagate* by division of plant in Mar.

Agathæa (Blue Marguerite, Cape Aster, Grass Thistle).—*Ord.* Compositæ. Greenhouse herbaceous perennial. *Nat.* Cape of Good Hope. *Int.* 1753. *Species* cultivated, 1. *Ht.* 18 in. *Flowers*, blue; May to Aug., outdoors; greenhouse, all the year. *Compost*, sandy loam two parts, leaf-mould & sand one part. *Position*, pots, sunny greenhouse, or warm beds outdoors, May to Sept. *Pot*, Mar. *Water* freely in sum., moderately other times. *Propagate* by cuttings of young shoots Mar. or Aug., in sandy soil, temp. 55° to 65°.

Agave (American Aloe, Century-plant, Mexican Soap-plant, Hemp-plant).—*Ord.* Amaryllidaceæ. Greenhouse plants. Orn. foliage & flowering. Evergreen. *Nat.* Mexico, S. America. *Int.* 1640. *Species* cultivated, 51. *Ht.* 8 in. to 6 ft. *Flowers*, yellowish-green or red, borne on spikes 1 to 40 ft. high when plants attain ten to sixty years of age; plant dies after flowering. *Compost*, two parts loam, one part old mortar & river sand. *Position*, pots or tubs in greenhouses may be stood outside June to Sept. *Water* moderately Ap. to Aug., little afterwards. *Pot*, every five or six years; good drainage essential. *Temp.*, winter 50° to 55°; summer 55° to 65°. *Propagate* by offsets inserted in small pots at any time.

Ageratum (Bastard Agrimony, Floss-flower).—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Mexico, Monte Video. *Int.* 1822. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, rose, blue; May to Sept. *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Propagate* by seeds sown in light soil in temp. 65° to 70° in Mar., or by cuttings of young shoots from plants stored in temp. 55° during winter. Plants to produce cuttings keep in pots all the year & do not allow them to flower.

Aglaonema (Poison-dart).—*Ord.* Aroideæ. Stove perennials. *Nat.* Borneo, Phillipines. *Int.* 1863. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, white, yellow, arum-shaped; Aug. *Leaves*, green, blotched with grey. *Compost* two-thirds loam, one-third leaf-mould, river sand. *Position*, well drained pots, shady. *Water* freely when growing, little afterwards. *Pot*, Mar. *Temp.* Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by division of roots in Mar.

Ag-Leaf (*Verbascum Thapsus*)—see Verbascum.

Agrostemma (Rose Campion, Corn Cockle, Flower of Jove, Rose of Heaven).—*Ord.* Caryophyllaceæ. Hardy perennials & annuals. Perennials evergreen. *Nat.* Levant, S. Europe, Switzerland. *Int.* 1596. *Species* cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, white, rose, scarlet; June to Aug. *Soil*, ordinary. *Position*, warm dry borders. *Plant* perennials Oct., Nov., Mar. *Propagate* annuals by seed sown where plants are to flower in Ap.; perennials by seed sown $\frac{1}{8}$ in. deep in Ap., or division of root Oct. or Ap.

Agrostis (Cloud-grass, Spear-grass, Bent-grass, Cut-grass). — *Ord.* Graminæ. Hardy perennial & annual-flowering grasses. *Nat.* England, Russia. *Int.* (foreign species) 1834. *Species* cultivated, 4. *Ht.* 6 to 18 in. *Flowers*, green; summer; useful for drying for winter decoration. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seed sown $\frac{1}{16}$ in. deep Ap. in open borders where plants are to grow. Sick cats & dogs chew this grass.

Ague-Tree (*Laurus sassafras*)—see Laurus.

Ailantus (Tree of Heaven, Tree of the Gods).—*Ord.* Xanthozylaceæ.

Hardy deciduous tree. *Nat.* China. *Int.* 1751. *Species* cultivated, 1. *Ht.* 30 to 60 ft. *Flowers*, white; Aug. *Leaves*, pinnate, 1 to 3 ft. long. *Soil*, light, rich. *Position*, sheltered, moist. *Plant*, Nov. *Propagate* by inserting portions of roots in pots of light soil in warm greenhouse or window in Mar., planting them out following Nov. Very handsome tree.

Air-Plant (*Ærides odorata*)—see Ærides.

Ajax Daffodil (*Narcissus Ajax*)—see Narcissus.

Ajuga (Alpine Bugle, Brown Bugle, Gout Ivy). — *Ord.* Labiatæ. Hardy annual and perennial herbaceous plants. *Nat.* Europe, Britain. *Int.* (foreign species) 1732. *Species* cultivated, 6. *Ht.* 6 to 12 in. *Flowers*, blue, purple-yellow, white; May to July. *Soil*, ordinary. *Position*, shady beds or borders. *Propagate* annuals & perennials by seeds sown outdoors Ap.; perennials by division of roots Oct. or Mar.

Akebia. — *Ord.* Lardizabalaceæ. Half-hardy climbing flowering shrub. Evergreen. *Nat.* Chusan. *Int.* 1845. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, purple, fragrant; Mar. to June. *Soil*, loam, peat & sand in equal parts. *Position*, south wall in S. England & Ireland; cool greenhouse other parts. *Plant*, Oct., Nov., in border. *Prune* straggling shoots after flowering. *Propagate* by division of roots in Oct.; cuttings, inserted in sandy soil in cold frame in Sept.

Alder-Buckthorn (*Rhamnus Frangula*)—see Rhamnus.

Alecost (*Tanacetum Balsamite*)—see Tanacetum.

Alexandrian Laurel (*Ruscus racemosus*)—see Ruscus.

Alexandrian Senna-Plant (*Cassia lanceolata*)—see Cassia.

Alexanders (*Smyrnium olasatrum*)—see Smyrnium.

Algerian Iris (*Iris stylosa*)—see Iris.

Algerian Silver Fir (*Picea numidica*)—see Picea.

Algerian Wax-Bean (*Phaseolus vulgaris*)—see Phaseolus.

Alisma (Water Plantain, Deil's Spoons).—*Ord.* Alismaceæ. Hardy aquatic perennials. *Nat.* Europe, Britain. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, white, pale rose; June to Aug. *Soil*, ordinary. *Position*, margins of shallow lakes, ponds, ditches. *Plant*, Mar. *Propagate* by seeds sown ½ in. deep Mar. in a pan of sandy peat, plunged below the surface of the water, or by division of roots Ap.

Alkanet (*Anchusa tinctoria*)—see Anchusa.

Almond-scented Orchid (*Odontoglossum madrense*)—see Odontoglossum.

Allamanda.—*Ord.* Apocynaceæ. Stove climbing plant. Evergreen. *Nat.* Brazil, Guiana, S. America. *Int.* 1785. *Species* cultivated, 7. *Ht.* 3 to 10 ft. *Flowers*, yellow; May to Sept. *Compost*, two parts fibry loam, one part leaf-mould, charcoal & coarse sand. *Position*, pot, tub, or planted in prepared border; shoots to be trained close to roof. *Pot*, Feb. *Water* freely Ap. to Aug., then moderately. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Prune* shoots, in Jan., to within one joint of main branch. *Propagate*, in Jan., by cuttings of shoots of previous year's growth, 3 in. long, inserted in pots of sandy soil, temp. 80°.

Alleghany Meadow-Sweet (*Spiræa corymbosa*)—see Spiræa.

Alleghany Vine (*Adlumia cirrhosa*)—see Adlumia.

All-Good (*Chenopodium Bonus-Henricus*)—see Chenopodium.

All-Heal (*Valerianella officinalis*)—see Valerianella.

Allion's Bell-Flower (*Campanula Allioni*)—see Campanula.

Allion's Primrose (*Primula Allioni*)—see Primula.

Allium (Garlic, Onion, Leek, Daffodil Garlic, Dwarf Moly). — *Ord.* Liliacea. Hardy bulbous perennials. *Nat.* California, Siberia, Palestine, S. Europe, England. *Int.* (foreign species) 1604. *Species* cultivated, 16. *Ht.* 2 in.

to 3 ft. *Flowers*, yellow, rose, blue, purple, white, violet; May to Aug. *Soil*, light, sandy. *Position*, warm border. *Plant* bulbs 3 in. deep & 4 in. apart in Oct. or Nov. *Propagate* by offsets planted as directed for bulbs. One species—*Neapolitanum*—good for pot culture in cool greenhouse or for forcing. Put bulbs 2 in. deep & 1 in. apart in well-drained pots of sandy soil. *Water* freely when growing, moderately afterwards.

Allosorus (Curled Rock Brake or Parsley Fern). — *Ord.* Filices. Hardy fern. *Nat.* Britain. *Ht.* 8 to 12 in. *Compost*, good fibrous loam, peat, leaf-mould. *Position*, moist rockery, partially exposed to sun. *Plant*, Ap., placing small stones on the surface of compost. *Propagate* by division of plant in Ap.

Allspice (*Calycanthus floridus*)—see Calycanthus.

Allspice Tree (*Pimenta acris*)—see Pimenta.

Almond (*Amygdalus communis*)—see Amygdalus.

Alnus (Aar, Alder)—*Ord.* Betulaceæ. Hardy trees and shrubs. Deciduous. *Nat.* Calabria, Britain, Japan. *Int.* (foreign species) 1820. *Species* cultivated, 4. *Ht.* 8 to 60 ft. *Flowers* (catkins), greenish; Mar. to May. *Soil*, ordinary. *Position*, damp places. *Plant*, Nov. *Propagate* by seeds sown 1 in. deep in damp soil in Mar., transplanting the seedlings when a year old; or by suckers springing from the roots in Nov.

Alocasia (Taro Plant, Indian Kale).—*Ord.* Aroideæ. Stove plants. Orn. foliage. *Nat.* Borneo, Ceylon, India, Solomon's Isles. *Int.* 1854. *Species* cultivated, 16. *Ht.* 1 to 4 ft. *Compost*, equal parts peat, sphagnum moss, fibry loam, with a little silver sand & charcoal. *Pot*, Mar., keeping base of plant above rim of pot; good drainage essential. *Position*, pots, shady. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by division of rhizomes in Mar.

Aloe (Medicinal Aloes).—*Ord.* Liliaceæ. Greenhouse succulent plants. Orn. foliage. Evergreen. *Nat.* Abyssinia, S. Africa, China, Socrota. *Int.* 1596. *Species* cultivated, 38. *Ht.* 6 in. to 30 ft. *Flowers*, red, yellow. *Compost*, two parts loam, one part peat, old mortar, river sand. *Position*, pots or tubs, sunny greenhouse. *Water* moderately Ap. to Aug., little afterwards. *Pot*, Mar.; good drainage indispensable. *Temp.*, winter 50° to 55°; summer 55° to 65°. *Propagate* by seeds sown in well-drained pans of sandy soil, temp. 70°.

Aloe-leaved Adam's Needle (*Yucca aloifolia*)—see Yucca.

Alonsoa (Mask-flower).—*Ord.* Scrophulariaceæ. Half-hardy shrubs, herbaceous perennials & annuals. *Nat.* Chili, Mexico, Peru. *Int.* 1790. *Species* cultivated, 8. *Ht.* 1 to 2 ft. *Flowers*, white, scarlet; May to Oct. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots, greenhouse, windows, or sunny beds outdoors May to Sept. *Water* moderately always. *Pot*, Mar. *Plant*, May. *Temp.*, Sept. to May 50° to 55°. *Propagate* by seeds sown 1/16 in. deep, Mar., temp. 60°, in sandy soil; cuttings, in pots of sandy soil, Aug.

Aloysia (Sweet-scented Verbena, Herb Louisa).—*Ord.* Verbenraceæ. Greenhouse deciduous shrub. Fragrant foliage. *Nat.* Chili. *Int.* 1781. *Species* cultivated, 1. *Ht.* 2 to 5 ft. *Flowers*, lilac; Aug. *Compost*, two parts loam, one leafmould & sand. *Position*, pots in windows or greenhouses; beds outdoors against south walls S. England & Ireland. *Pot* or plant Mar. *Water* freely Mar. to Sept., little afterwards. *Prune* shoots Feb. to within inch of base. *Temp.*, 45° to 50° in winter; 50° to 55° other times. *Propagate* by cuttings pulled off stem when 4 in. long & inserted in sandy soil under bell-glass, temp. 65°, Mar.

Alpinia (Indian Shell-flower).—*Ord.* Zingiberaceæ. Stove herbaceous perennials. *Nat.* Borneo, India, South Sea Islands. *Int.* 1792. *Species* cultivated, 3. *Ht.* 3 to 6 ft. *Flowers*, pink, fragrant; May. *Compost*, equal parts peat, leaf-mould & loam. *Position*, large pots, tubs, or beds. *Plant*, Mar.

Water freely Mar. to Aug., moderately other times. *Propagate* by division of roots in Ap.

Alpine Bell-Flower (*Campanula alpina*)—see Campanula.

Alpine Bladder Fern (*Cystopteris alpina*)—see Cystopteris.

Alpine Buckthorn (*Rhamnus alpinus*)—see Rhamnus.

Alpine Catch-Fly (*Silene alpestris*)—see Silene.

Alpine Cinquefoil (*Potentilla alpestris*)—see Potentilla.

Alpine Clematis (*Clematis alpina*)—see Clematis.

Alpine Eryngo (*Eryngium alpinum*)—see Eryngium.

Alpine Flax (*Linum alpinum*)—see Linum.

Alpine Forget-me-not (*Myosotis alpestris*)—see Myosotis.

Alpine Garlic (*Allium alpinum*)—see Allium.

Alpine Heron's-bill (*Erodium alpinum*)—see Erodium.

Alpine Larkspur (*Delphinium alpinum*)—see Delphinium.

Alpine Lavender-Cotton (*Santolina alpina*)—see Santolina.

Alpine Lungwort (*Mertensia alpina*)—see Mertensia.

Alpine Madwort (*Alyssum alpestre*)—see Alyssum.

Alpine Meadow-Rue (*Thalictrum alpinum*)—see Thalictrum.

Alpine Meadow-Saffron (*Colchicum alpinum*)—see Colchicum.

Alpine Pink (*Dianthus alpinus*)—see Dianthus.

Alpine Polypody (*Polypodium alpestre*)—see Polypodium.

Alpine Poppy (*Papaver alpinum*)—see Papaver.

Alpine Rose (*Rhododendron ferrugineum, R. hirsutum,* & *R. striatum*)—see Rhododendron.

Alpine Sedge (*Carex alpina*)—see Carex.

Alpine Speedwell (*Veronica alpina*)—see Veronica.

Alpine Strawberry (*Fragaria collina*)—see Fragaria.

Alpine Sun-rose (*Helianthemum alpestre*)—see Helianthemum.

Alpine Violet (*Viola montana*)—see Viola.

Alpine Whitlow-grass (*Draba alpina*)—see Draba.

Alpine Wind-Flower (*Anemone alpina*)—see Anemone.

Alpine Wormwood (*Artemisia alpina* & *A. mutellina*)—see Artemisia.

Alpine Rosy-flowered Thrift (*Armeria alpina rosea*)—see Armeria.

Alpine Toad-Flax (*Linaria alpina*)—see Linaria.

Alsophila (Grove Fern, Norfolk Island Fern).—*Ord.* Filices. Stove and greenhouse tree ferns. *Nat.* W. Indies, Java, New Holland, Queensland, Australia, Brazil. *Int.* 1833. *Species* cultivated, 20. *Ht.* 6 to 30 ft. *Compost,* two parts peat, one part loam, silver sand & charcoal. *Pot,* Mar. *Water* freely Mar. to Sept., moderately afterwards. *Position,* pots or tubs, shady. *Temp.,* stove, 60° to 70° Sept. to Mar., 70° to 80° Mar. to Sept.; greenhouse, 50° to 55° Sept. to Mar., 55° to 60° Mar. to Sept. *Propagate* by spores, similar to *Adiantum.*

Alströmeria (Herb Lily).—*Ord.* Amaryllidaceæ. Hardy & half-hardy tuberous-rooted perennials. *Nat.* Brazil, Chili, Peru. *Int.* 1754. *Species* cultivated, 10. *Ht.* 1 to 2 ft. *Flowers,* orange, yellow, pink, crimson, scarlet, white; May to Sept. *Compost,* sandy loam, peat, leaf-mould, equal parts. *Plant,* Oct. *Position,* sunny, well drained border; or pots in cool greenhouse. *Water* freely in sum., moderately in winter. *Propagate* by seeds sown ¼ in. deep, in sandy soil, in pans in cold frame, Mar.; division of roots Ap. or Oct.

Alternanthera (Joy-weed).—*Ord.* Amaranthaceæ. Half-hardy perennials. Orn. foliage. *Nat.* Brazil. *Int.* 1862. *Species* cultivated, 4; varieties numerous. *Ht.* 3 to 4 in. *Foliage,* crimson, red. *Soil,* ordinary. *Position,* sunny beds outdoors, May to Sept. *Plant,* May, 2 in. apart. *Lift* in Sept., store in pots or boxes in temp. 55° to 65° during winter. *Propagate* by cuttings inserted in sandy soil, temp. 75°, Mar.

Altaian Columbine (*Aquilegia alpina*)—see Aquilegia.

Altaian Larch (*Larix Ledebouri*)—see Larix.

Altaian Primrose (*Primula altaica*)—see Primula.

Altaian Violet (*Viola altaica*)—see Viola.

Althæa.—See Hollyhock.

Alum-Root (*Heuchera americana*)—see Heuchera.

Alyssum (Madwort, Gold-dust, Golden-tuft, Gold Basket).—*Ord.* Cruciferæ. Hardy annuals and perennials. *Nat.* Crete, S. & E. Europe, Asia Minor. *Int.* 1710. *Species* cultivated, 8. *Ht.* 3 to 12 in. *Flowers*, yellow; white; Ap. to Aug. *Soil*, ordinary. *Position*, open border or rockery, *Plant*, Oct. or Ap. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap., cuttings of young shoots inserted in sandy soil in cold frame Ap. & May.

Amaranth (*Gomphrena globosa*)—see Gomphrena.

Amaranth Feathers (*Humea elegans*)—see Humea.

Amber (*Hypericum perforatum*)—see Hypericum.

Amaranthus (Love-lies-bleeding, Prince's Feather, Velvet-flower).—Hardy & half-hardy annuals. *Nat.* India, Phillipine Isles. *Int.* 1596. *Species* cultivated, 7. *Ht.* 1 to 5 ft. *Flowers*, purple, crimson; June to Sept. *Foliage*, orange-red, crimson, green. *Soil*, ordinary. *Position*, sunny bed. *Plant*, June. *Propagate* by seeds sown $\frac{1}{16}$ in. deep, in temp. 65° to 75°, Mar.; seedlings to be placed in cool greenhouse a few weeks before planting out.

Amaryllis (Daffodil or Belladonna Lily).—Hardy bulbous plant. Deciduous. *Nat.* W. Indies. *Int.* 1712. *Species* cultivated, 1. *Flowers*, reddish salmon; appear before foliage in Aug. & Sept. *Compost*, sandy loam, enriched with leaf-mould & cow manure. *Position*, well drained border foot of south wall. *Plant* bulbs 4 in. deep, June. *Propagate* by offsets in June. For greenhouse amaryllis see *Hippeastrum*.

Amelanchier (Grape-pear, Snowy Mespilus, June-berry).—Hardy flowering trees & shrubs. Deciduous. *Nat.* Europe, Canada, N. America. *Int.* 1596. *Species* cultivated, 3. *Ht.* 4 to 10 ft. *Flowers*, white; Ap. to May. *Soil*, ordinary. *Position*, open shrubbery. *Plant*, Nov. *Propagate* by grafting in Mar. on the quince or hawthorn.

American Black Currant (*Ribes floridum*)—see Ribes.

American Black Fir (*Abies nigra*)—see Abies.

American Black Larch (*Larix americana*)—see Larix.

American Black Oak (*Quercus tinctoria*)—see Quercus.

American Black-Thorn (*Cratægus tomentosa*)—see Cratægus

American Blue Flag (*Iris versicolor*)—see Iris.

American Chestnut (*Castanea vesca*)—see Castanea.

American Common Blue Violet (*Viola cucullata*)—see Viola.

American Cotton Plant (*Gossypium herbaceum*)—see Gossypium.

American Cotton-Wood (*Populus monilifera*)—see Populus.

American Cress (*Barbarea præcox*)—see Barbarea.

American Cud-Weed (*Antennaria margarita*) see Antennaria.

American Dwarf Black-Thorn (*Cratægus parvifolia*)—see Cratægus.

American Elder (*Sambucus canadensis*)—see Sambucus.

American Elm (*Ulmus americana*)—see Ulmus.

American False Heath (*Hudsonia ericoides*) see Hudsonia.

American Flea-bane (*Erigeron philadelphicus*)—see Erigeron.

American Forget-me-not (*Myosotis verna*)—see Myosotis.

American Globe Flower (*Trollius laxus*)—see Trollius.

American Gooseberry (*Pereskia aculeata*)—see Pereskia,

American Grape Fern (*Botrychium lunarioides*)—see Botrychium.

American Great Laurel (*Rhododendron maximum*)—see Rhododendron.

American Ivy (*Ampelopsis hederacea*)—see Ampelopsis.

American Larkspur (*Delphinium exaltatum*)—see Delphinium.

American Laurel (*Kalmia latifolia*)—see Kalmia.

American Leopard's-bane (*Doronicum nudicaule*)—see Doronicum

American Live Oak (*Quercus virens*)—see Quercus.

American Maidenhair Fern (*Adiantum pedatum*)—see Adiantum.

American Meadow-Sweet (*Spiræa salicifolia*)—see Spiræa.

American Mountain Tea-plant (*Gaultheria procumbens*) — see Gaultheria.

American Plane-Tree (*Platanus occidentalis*)—see Platanus.

American Poison Ivy (*Rhus toxicodendron*)—see Rhus.

American Polypody (*Polypodium incanum*) - see Polypodium.

American Red Larch (*Larix microcarpa*)—see Larix.

American Scrub Oak (*Quercus Catesbæi*)—see Quercus.

American "Spanish" Oak (*Quercus falcata*)—see Quercus.

American Swamp Laurel (*Kalmia glauca*)—see Kalmia.

American Toad-Flax (*Linaria canadensis*) – see Linaria.

American Virgin's Bower (*Clematis virginiana*) see Clematis.

American Water Marigold (*Bidens Becki*)—see Bidens.

American White Fir (*Abies alba*)—see Abies.

American Wild Hazel (*Corylus americana*) - see Corylus.

American Wild Monkshood (*Aconitum uncinatum*)—see Aconitum.

American Wild Pink (*Silene pennsylvanica*) see Silene.

American Witch Hazel (*Hamamelis virginica*)—see Hamamelis.

American Wood-Lily, Drooping (*Trillium cernuum*)—see Trillium.

American Wood-Lily, Dwarf White (*Trillium nivale*) – see Trillium.

American Wood-Lily, Painted (*Trillium erythrocarpum*) — see Trillium.

American Wood-Lily, Large White (*Trillium grandiflorum*)—see Trillium.

American Yew-Tree (*Taxus baccata, var. canadensis*)—see Taxus.

Amethyst Hyacinth (*Hyacinthus amethystinus*)—see Hyacinthus.

Amethyst Speedwell (*Veronica amethystina*)—see Veronica.

Amethyst Squill (*Scilla amethystina*)—see Scilla.

Ammobium (Everlasting Sand-flower).—Half hardy annual. *Nat.* New Holland. *Int.* 1822. *Species* cultivated, 1. *Ht.* 1 to 2 ft. *Flowers*, silvery white, useful for winter bouquets; May to Sept. *Soil*, light, rich. *Position*, warm border. *Plant*, May, 6 in. apart. *Propagate* by seeds sown ⅛ in. deep in light soil, temp. 65°, Mar.

Ampelopsis (American Ivy, Virginian Creeper).—Hardy climbing plants. Deciduous. Orn. foliage. *Nat.* N. America, Virginia, Japan. *Int.* 1629. *Species* cultivated, 5. *Ht.* 20 to 30 ft. *Soil*, ordinary. *Position* walls of any aspect, sunny or shady. *Plant*, Nov. to Mar. *Propagate* by cuttings of firm shoots 6 in. long, inserted in pots of sandy soil in cold frame or greenhouse, Sept.

Amygdalis (Almond).—Hardy flowering trees & shrubs. Deciduous. *Nat.* Barbary, Tartary, Caucasus, Cochin China. *Int.* 1548. *Species* cultitivated, 5. *Ht.* 2 to 30 ft. *Flowers*, white, rose, red; Mar. to Ap. *Soil*, deep loam. *Position*, open shrubberies; suitable also for forcing or cool greenhouse culture in pots. *Pot*, Nov. *Prune*, Dec., simply removing crooked branches.

Propagate by stones sown 6 in. deep in open ground in Oct.; grafting in Mar. on young seedling plum trees.

Anæctochilus (King plant).—Stove terrestrial orchids. Orn. foliage. *Nat.* Borneo, India, Java. *Int.* 1836. *Species* cultivated, 22. *Ht.* 3 to 6 in. *Leaves*, bronze, olive, golden, green. *Compost*, peat, sand, & sphagnum moss in equal parts. *Position*, shady, well drained pans under a bell-glass not fixed down quite close. *Water* moderately at all times. *Pot*, Feb. or Mar. *Temp.*, Sept. to Feb. 55° to 65°; Mar. to Sept. 60° to 75°. *Propagate* in Feb. by inserting portions of stems in same compost as advised for plants, & under bell-glass.

Anagallis (Bog Pimpernel, Poor Man's Weather Glass).—Half-hardy annuals & hardy perennials. Trailing. *Nat.* Britain, Portugal. *Int.* (foreign species) 1796. *Species* cultivated, 6. *Ht.* 3 to 12 in. *Flowers*, vermilion, blue, pink; May to Sept. *Soil*, light, rich. *Position*, sunny well drained borders for annuals; moist & boggy places for perennials. *Propagate* annuals by seeds sown ⅛ in. deep in temp. 65°, Mar., transplanting seedlings outdoors in June; perennials by division of roots in Mar.

Ananassa (Pine-apple).—Stove plants, bearing the well-known fruit —pine-apples. Orn. foliage. Evergreen. *Nat.* Phillipines. *Int.* 1690. *Species* cultivated, 1, with prettily variegated variety. *Ht.* 2 ft. *Compost*, two parts decomposed fibry loam, one part well decayed manure, another part ½ in. bones & pounded oyster shells. *Position*, pots in hotbed (temp. 85°), stove facing south. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 90°. *Water* moderately in winter, freely in sum. *Propagate* by suckers, or crowns of fruit inserted in small pots in temp. 80°, spring.

Anchusa (Alkanet, Sea-bugloss).—Hardy annuals, biennials, & perennials. *Nat.* Britain, S. Europe, Cape of Good Hope, Caucasus. *Int.* (foreign species) 1596. *Species* cultivated, 8. *Ht.* 1 to 4 ft. *Flowers*, blue; May to Oct. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown ⅛ in. deep in Mar. in pans or boxes of sandy soil, temp. 55° to 65°.

Anderson's Oak (*Quercus Andersoni*)—see Quercus.

Anderson's Speedwell (*Veronica Andersoni*)—see Veronica.

Andre's Flamingo-Plant (*Anthurium Andreanum*)—see Anthurium.

Andromeda (Marsh Rosemary, Wild Rosemary).—Hardy flowering shrub. Evergreen. *Nat.* Britain, N. America. *Species* cultivated, 1. *Ht.* 1 ft. *Flowers*, pink, white, red; June. *Soil*, boggy peat. *Position*, moist, shady. *Plant*, Oct. *Propagate* by layering shoots in Sept.

Androsace (Rock Jasmine).—Hardy annual & perennial alpine plants. *Nat.* Austria, Switzerland, Russia. *Int.* 1755. *Species* cultivated, 13. *Ht.* 2 to 9 in. *Flowers*, white, pink, red, rose; May to Oct. *Soil*, sandy peat & loam. *Position*, sunny rockeries, in fissures of stones, or under ledges of rock. *Plant*, Mar. or Ap. *Propagate* by seeds sown 1/16 in. deep. in sandy peat in cold frame; cuttings in pots of sandy soil in frames in Sept. & Oct.; division of roots in Ap.

Anemia (Flower fern, Ash-leaf fern).—Stove & greenhouse ferns. *Nat.* Brazil. Jamaica, Trop. America, W. Indies. *Int.* 1793. *Species* cultivated, 29. *Ht.* 4 to 12 in. *Compost*, equal parts loam, peat, leaf-mould, sand & charcoal. *Position*, shady, moist; useful for wardian cases. *Pot*, Feb., Mar. *Water* freely spring & sum., moderately other times. *Temp.*, stove, Mar. to Sept. 70° to 85°, Sept. to Mar. 60° to 65°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by spores similar to *Adiantum*.

Anemone (Wind-flower).—Hardy tuberous-rooted & herbaceous perennials. *Nat.* Britain, Europe, Switzerland, Carolina, N. America, Nepaul, France. *Int.* (foreign species) 1596. *Species* cultivated, 27. *Ht.* 6 in. to 3 ft. *Flowers*, white, yellow, blue, purple; Feb. to Oct. *Soil*, rich sandy loam. *Position*, sunny rockeries, beds, & borders for tuberous-rooted species; shady borders for herbaceous species. *Plant* tubers 3 in. deep & 6 in. apart in Oct., Jan., Feb.; plants in Oct., Nov., Mar. Tubers of *A. coronaria* require lifting after flowering, drying & storing in cool place till required for replanting; other tuberous-rooted kinds leave in ground altogether. *Propagate* tuberous-rooted species by seeds sown ¼ in. deep in sheltered border outdoors, or pans in cold frame in Oct. or Mar.; herbaceous species by division of roots in Oct. or Mar.

Anemone-flowered Rose (*Rosa anemonæflora*)—see Rosa.

Anemone-flowered Camellia (*Camellia anemonæflora*)—see Camellia.

Anemonopsis (Yerba Mansa).—Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1869. *Species* cultivated, 1. *Ht.* 3 ft. *Flowers*, pale lilac; July. *Soil*, deep rich loam. *Position*, partially shaded border. *Plant*, Oct., Nov., Mar. *Propagate* by division of roots in Oct. or Mar.

Angelica (Ground Ash, Holy Ghost).—Perennial herbaceous herb used for flavouring confectionery & liquors. *Nat.* Britain. *Species* cultivated, 1. *Ht.* 3 ft. *Soil*, ordinary. *Position*, shady. *Propagate* by seeds sown ½ in. deep in Mar. where plants are to remain. When seedlings are 3 in. high thin them to 6 in. apart.

Angel's Eyes (*Veronica chamædrys*)—see Veronica.

Angel's Trumpet (*Brugmansia suavolens*)—see Brugmansia.

Angiopteris (Turnip-fern).—Greenhouse fern. Evergreen. *Nat.* Ceylon. *Species* cultivated, 1. *Ht.* 7 ft. *Compost*, equal parts peat, loam, leaf-mould, sand & charcoal. *Pot*, Feb., Mar. *Position*, pots or tubs in shade. *Water* freely in spring & sum., moderately other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by spores similar to *Adiantum*.

Angræcum (Bourbon Tea plant).—Epiphytal orchids. *Nat.* Cape Coast, Madagascar, Sierra Leone, Zanzibar, Comoso Islands. *Int.* 1815. *Species* cultivated, 25. *Ht.* 6 to 12 in. *Flowers*, white, fragrant; Oct. to Mar. *Compost*, equal parts broken potsherds, charcoal & sphagnum moss. *Position*, suspended baskets or well drained pots. *Pot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Sept to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by division of plant in Mar.

Anguloa (Bull's Head Orchid).—*Ord.* Orchidaceæ. Stove orchids. *Nat.* Columbia. *Int.* 1842. *Species* cultivated, 8. *Ht.* 1 ft. *Flowers*, white, yellow, pink, fragrant; May to Aug. *Compost*, fibrous peat & charcoal. *Position*, pots, shady part of stove. *Pot* when new growth begins. *Water* freely May to Sept., very little afterwards. *Temp.*, Ap. to Sept. 65° to 75°; Sept. to Mar. 55° to 60°. *Propagate* by division of pseudo-bulbs when repotting.

Aniseed Tree (*Illicium floridanum*)—see Illicium.

Annual Everlasting (*Xeranthemum annua*)—see Xeranthemum.

Annual Mullein (*Verbascum Boerhaavi*)—see Verbascum.

Anomatheca (Flowering grass).—*Ord.* Iridaceæ. Hardy bulbous perennial. *Nat.* Cape of Good Hope. *Int.* 1830. *Species* cultivated, 1. *Ht.* 10 in. *Flowers*, crimson; June to Sept. *Compost*, sandy loam & leaf-mould. *Position*, sunny well drained borders or rockeries. *Plant* bulbs 4 in. deep & 3 in. apart; Sept. & Oct. *Propagate* by offsets at planting time. Useful for pot culture in cool greenhouses. Put six bulbs in a 6-in. pot in Sept. & treat like other bulbs.

Anopterus (Tasmanian Laurel).—*Ord.* Saxifrageæ. Greenhouse flowering shrub. Evergreen. *Nat.* Van Diemen's Land. *Int.* 1823. *Flowers*, rosy white; Ap. to June. *Species* cultivated, 1. *Ht.* 2 ft. 6 in. *Compost*, two parts loam, one part peat & sand. *Pot & prune*, Mar. *Position*, sunny greenhouse. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Water* moderately in winter, abundantly at other times. *Propagate* by cuttings of firm shoots 3 in. long, in sandy peat under bell-glass in temp. 65° in sum.

Antartic Birch (*Betula antartica*)—see Betula.

Antennaria (Cat's-ear, Mountain Cud-weed, Silvery Cud-weed, Cotton-weed).—*Ord.* Compositæ. Hardy herbaceous perennial alpines. *Nat.* Britain. *Species* cultivated, 3. *Ht.* 2 in. to 2 ft. *Flowers*, pink white; June to Aug. *Leaves*, silvery white; useful for carpet bedding. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Plant*, Mar. or Oct. *Propagate* by division of roots in Mar.

Anthemis (Silvery Chamomile, Yellow-flowered Chamomile, Common Chamomile).—*Ord.* Compositæ. Hardy perennials. *Nat.* Greece, England. *Species* cultivated, 12. *Ht.* 2 to 18 in. *Flowers*, white, yellow; May to Aug. *Soil*, ordinary. *Position*, open border or rockery. *Plant*, Oct. or Mar. *Propagate* by division of roots at planting time.

Anthericum (St. Bruno's Lily, St. Bernard's Lily, Branched Spiderwort).—*Ord.* Liliaceæ. Hardy & half-hardy herbaceous perennials. *Nat.* S. Europe, S. Africa. *Int.* 1596. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white, fragrant; May to June. *Soil*, light rich. *Position*, moist, partially shaded. *Plant*, Oct., Nov. *Propagate* by seeds sown ⅛ in. deep in light soil in cold frame in Sept. or Mar.; division of roots in Oct. *A. variegatum* is an effective plant for pot culture in cool greenhouses. *Water* freely in sum., little in winter.

Antholyza (African Corn flag).—*Ord.* Iridaceæ. Hardy bulbous perennials. *Nat.* Cape of Good Hope. *Int.* 1756. *Species* cultivated, 3. *Ht.* 2 to 3 ft. *Flowers*, scarlet, green, black; June, July. *Soil*, light, sandy. *Position*, sunny border, well drained; pots in cool greenhouse. *Plant* bulbs 4 in. deep, 6 in. apart in border, or six in a 6-in. pot, Oct. Bulbs to be lifted in Aug., dried & stored till Oct. in cool place. *Propagate* by offsets at planting time.

Anthony-Nut (*Staphylea pinnata*)—see Staphylea.

Anthoxanthum (Sweet Vernal-grass).—*Ord.* Gramineæ. Hardy perennial flowering grass. *Nat.* Britain. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow; June; useful for winter bouquets. *Soil*, ordinary. *Plant*, Oct. or Mar. *Position*, open border. *Propagate* by seeds sown ⅛ in. deep where plants are to grow in Ap.; division of roots, Oct. or Mar.

Anthurium (Flamingo-plant, Tail-flower).—*Ord.* Aroideæ. Stove plants. Flowering & orn. foliage. *Nat.* Brazil, Columbia, New Grenada, Venezuela, Costa Rica. *Species* cultivated, 22. *Ht.* 1 to 3 ft. *Flowers*, red, scarlet, white; Mar. to Aug. *Leaves*, velvety green. *Compost*, equal parts rough peat, sphagnum moss. *Position*, pots, well drained, shady. *Pot*, Mar. *Water* freely Mar. to Nov., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by division of roots in Mar.

Anthyllis (Kidney Vetch, Jupiter's Beard, Silver-bush, Hedge-hog-plant, Lamb's Toes, Lady's Fingers, Wound-wort). — *Ord.* Leguminosæ. Hardy shrubs & herbaceous perennials. *Nat.* Britain, S. Europe, Spain, Corsica. *Int.* (foreign species) 1640. *Species* cultivated, 5. *Ht.* 3 in. to 3 ft. *Flowers*, yellow, purple, pink, white; Mar. to July. *Soil*, ordinary. *Position*, open or partially shaded border. *Plant*, Oct. *Propagate* shrubby kinds by cuttings of young shoots under bell-glass in cold frame in Mar.; herbaceous species by seeds sown ⅛ in. deep in warm border in Ap. or by division of root in Oct.

Antirrhinum (Snapdragon, Dragon's Mouth, Lion's Mouth).—*Ord.* Scrophulariaceæ. Hardy herbaceous perennial. *Nat.* England. *Species* cultivated, 1. *Ht.* 2 ft. *Flowers*, various colours; Ap. to Nov. *Soil*, ordinary. *Position*, warm dry borders, rockeries, or walls. *Plant.* Ap. *Propagate* by seeds sown in temp. 70° in Mar. or outdoors in Ap., transplanting seedlings in May; cuttings of young shoots in cold frame in Aug. Best treated as annual or biennial, fresh plants being raised every year.

Aotus.—*Ord.* Leguminosæ. Greenhouse flowering shrub. Evergreen. *Nat.* New Holland. *Int.* 1844. *Species* cultivated, 1. *Ht.* 3 ft. *Flowers*, crimson, yellow; May. *Compost*, equal parts loam, peat, sand, charcoal. *Pot*, Mar. *Position*, pots, well drained, light & sunny. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 60°. *Propagate* by cuttings of firm shoots in pots of sandy soil under bell-glass, temp. 55°.

Apes-on-Horseback (*Bellis perennis*)—see Bellis.

Apennine Sun-Rose (*Helianthemum apenninum*)—see Helianthemum.

Aphelandra.—*Ord.* Acanthaceæ. Stove flowering shrubs. Evergreen. *Nat.* Columbia, New Grenada, Mexico, Brazil. *Int.* 1733. *Species* cultivated, 9. *Ht.* 18 in. to 3 ft. *Flowers*, orange, red, yellow, scarlet; Oct. to Dec. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, pots, moist atmosphere. *Water* freely in sum., moderately in winter. *Prune* shoots to within inch of base in Feb. & repot in Mar. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots inserted in sandy soil in bottom-heat (80°) Mar. or Ap.

Aphelexis.—*Ord.* Compositæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1735. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white, pink, purple, rose; sum. *Compost*, two parts peat, one leaf-mould, sand & charcoal. *Position*, light, sunny. *Pot* firmly in Feb. *Water* moderately at all times. *Propagate* by cuttings inserted, Ap. or July, in well drained pots of sandy peat under bell-glass.

Apios (American Ground Nut).—*Ord.* Leguminosæ Hardy tuberous-rooted climbing perennial. Deciduous. *Nat.* Pennsylvania. *Int.* 1640. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, purple, fragrant; June to Oct. *Soil*, ordinary. *Position*, warm border against south wall. *Plant* tubers in Mar *Propagate* by division of tubers in Mar.

Aponogeton (Cape Pond-weed, Winter Hawthorn).—*Ord.* Naiadaceæ Hardy floating aquatic. *Nat.* Cape of Good Hope. *Int.* 1788. *Species* cultivated, 1. *Flowers*, white, fragrant; winter. *Soil*, ordinary. *Position*, shallow ponds or lakes where there is a stream of water, or in greenhouse tanks & aquaria. *Plant*, in pots, sinking the latter in the water. Mar. Not hardy in the north. *Propagate* by offsets.

Apple (*Pyrus malus*).—*Ord.* Rosaceæ. **Indigenous to Britain.** *Varieties* in cultivation, 1,545. *Soil*, deep loam. *Position*, for orchards, land sloping to S.E. & S.W., just above valley; for gardens, open, sheltered, well drained. *Plant*, Nov., Dec., Jan. *Distances apart*—cordons, 18 in.; bushes, 5 to 6 ft.; pyramids, 10 ft.; fan-trained, 15 ft.; espaliers, 18 ft.; standards, 25 ft. *Prune*, June & Dec. Shoots to form spurs prune to 2 in.; those to form branches, 6 to 8 in. *Root-prune*, Sept. *Gather fruit*, Aug., Sept., Oct. *Propagate* for new sorts by seeds sown 3 in. deep outdoors in Mar.; grafting on paradise or crab in Mar., or budding in July & Aug. to perpetuate existing varieties.

Apennine Wind-Flower (*Anemone apennina*)—see Anemone.

Ape Orchis (*Orchis simia*)—see Orchis.

Apple-Bearing Rose (*Rosa villosa pomifera*)—see Rosa.

Apple-Bearing Sage (*Salvia pomifera*)—see Salvia.

Apple Moss, Common (*Bartramia pomiformis*)—see Bartramia.

Apple-Pie (*Epilobium hirsutum*)—see Epilobium.

Apple-Scented Gum Tree (*Eucalyptus Stuartiana*)—see Eucalyptus.

Apricot (*Armeniaca vulgaris*).—*Ord.* Rosaceæ. *Nat.* Central Asia. *Int.* 1562. *Varieties* in cultivation, 10. *Soil*, sandy loam. *Position*, against south walls. *Plant*, Oct., Nov. *Shape of tree*, fan-trained. *Distance apart*, 20 ft. *Prune*, Jan., Feb. Fruit is borne on shoots one, two, & three years old. Shorten shoots not required to form branches to within an inch of their base. *Root-prune*, Sept. *Propagate* by budding in June on the Mussel, Black Damson, & Brussels plum; sowing stones in Aug. in light rich soil.

Aquilegia (Columbine). — *Ord.* Ranunculaceæ. Hardy perennial alpines. *Nat.* Switzerland, Tyrol, Mount Olympus, California, Himalayas, Siberia, N. America, England. *Int.* (foreign species) 1640. *Species* cultivated, 13. *Ht.* 9 in. to 3 ft. *Soil*, sandy loam, enriched with leaf-mould. *Position*, moist, sheltered & sunny rockeries & borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown ⅛ in. deep in sandy soil in cold frame in Aug.; division of the roots in Oct. or Ap.

Arabian Jasmine (*Jasminum Sambac*)—see Jasminum.

Arabian Tea-Plant (*Catha edulis*)—see Catha.

Arabic Gum-Plant (*Acacia arabica*)—see Acacia.

Arabis (Wall Cress, Rock Cress).—*Ord.* Cruciferæ. Hardy perennial alpine trailing plants. *Nat.* Caucasus, Hungary, S. Europe, Servia, Britain. *Int.* (foreign species) 1596. *Species* cultivated, 7. *Ht.* 4 to 12 in. *Soil*, ordinary. *Position*, well drained borders, sunny rockeries. *Plant*, Oct. & Nov. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in Ap.; cuttings inserted in shady border in Aug.; division of roots in Oct.

Aralia (Wild Sarsaparilla, Wild Elder, Chinese Paper plant, Shotbush).—*Ord.* Araliaceæ. Stove, greenhouse, & hardy plants. Orn. foliage. Evergreen & deciduous. *Nat.* Japan, New Zealand, Polynesia, South Sea Islands, N. America. *Int.* 1658. *Species* cultivated, 18. *Ht.* 3 to 20 ft. *Compost*, equal parts loam, peaty leaf-mould, charcoal & sand. *Pot*, Feb. to Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, stove, Mar. to Sept. 70° to 80°, Sept. to Mar. 60° to 70°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 55°. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap. Hardy species require rich soil, warm border, & protection in winter.

Araucaria (Monkey Puzzle, Chilian Pine, Moreton Bay Pine, Norfolk Island Pine, New Caledonian Pine) *Ord.* Coniferæ. Hardy & half-hardy trees. Evergreen. Orn. foliage. *Nat.* Moreton Bay, Chili, Norfolk Island, Brazil. *Int.* 1796. *Species* cultivated, 9. *Ht.* 15 to 160 ft. *Soil*, deep rich loam. *Position* hardy species, high, dry, & sheltered outdoors; tender species, in pots or tubs in cool greenhouse. *Water* those in pots moderately always. *Propagate* by seeds sown 1 in. deep in light soil, temp. 65°, Feb., Mar., Ap.

Arbor-Vitæ (*Thuia occidentalis*)—see Thuia.

Arbutus (Cane apple, Strawberry tree).—*Ord.* Ericaceæ. Hardy orn. foliage trees. Evergreen. *Nat.* Ireland, Greece, Canary Islands, Chili, N. America. *Int.* (foreign species) 1724. *Species* cultivated, 2. *Flowers*, white, red; May to Sept. *Fruit*, globular, scarlet; ripe in Oct., year after flowering. *Soil*, sandy peat. *Position*, sunny, sheltered. *Plant*, Sept. to Dec. *Propagate* by seeds sown 1 in. deep in well drained pans of sandy peat in cold frame in Mar.; budding in July or Aug.; or inarching in Ap.

Archangel (*Angelica officinalis*)—see Angelica.

Ardisia (Spear flower).—*Ord.* Myrsinaceæ. Stove flowering & berry bearing plants. Evergreen. *Nat.* Mexico. *Int.* 1809. *Species* cultivated, 4. *Ht.* 3 to 6 ft. *Flowers*, reddish violet; June. *Berries*, coral-red; winter. *Compost*, equal parts loam, peat, leaf-mould & sand. *Pot*, Feb. to Mar. *Position*, pots, light. *Water* freely in sum., little in winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 55° to 65°. *Propagate* by seeds sown ¼ in. deep in above compost in temp. 75° in spring; cuttings of side shoots in similar soil & temp., Mar.

Areca (Cabbage Palm, Betel-nut Palm, Walking stick Palm).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* India, Ceylon. *Int.* 1690. *Species* cultivated, 3. *Ht.* 6 to 30 ft. *Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, shady, moist. *Water* freely at all times. *Pot*, Feb., Mar. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds similar to *Acanthophœnix*.

Arenaria (Sand wort).—*Ord.* Caryophyllaceæ. Hardy herbaceous perennials. *Nat.* Caucasus, Corsica, Ireland, France, Siberia, Pyrenees

Int. 1731. *Species* cultivated, 7. *Ht.* 3 to 6 in. *Flowers*, white, purple, Mar. to Aug. *Soil*, ordinary. *Position*, exposed or shaded rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in boxes in cold frame, Mar.; cuttings under bell-glass in open, Ap.; division of plants in Oct. or Mar.

Arethusa.—*Ord.* Orchidaceæ. Hardy terrestial bulbous orchid. *Nat.* Carolina. *Species* cultivated, 1. *Ht.* 8 in. *Flowers*, rosy-purple, fragrant; May. *Compost*, sphagnum moss & well decayed manure. *Position*, damp, shady. *Plant*, Oct. to Dec. *Protect* bulbs in winter by covering of decayed leaves. *Propagate* by offsets in autn.

Argemone (Mexican Poppy, Thistle Oil-plant, Infernal Fig, Devil's Fig, Yellow Thistle, Prickly Poppy).—*Ord.* Papaveraceæ. Hardy annuals & perennials. Flowering. *Nat.* California, Mexico. *Int.* 1592. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, white. yellow; July to Oct. *Soil*, sandy. *Position*, sunny border, well drained. *Plant*, Mar. *Propagate* both annuals & perennials by seeds sown $\frac{1}{4}$ in. deep in sandy soil outdoors in Mar.; perennials will not flower till following year.

Aristolochia (Birth-wort, Dutchman's Pipe).—*Ord.* Aristolochiaceæ. Stove, greenhouse, & hardy climbing plants. Evergreen & deciduous. *Nat.* Brazil, Mexico, India, Jamaica, N. & S. America, New Grenada. *Int.* 1727. *Species* cultivated, 12. *Ht.* 5 to 30 ft. *Flowers*, purple, yellow, white, curiously shaped; all times. *Compost*, two-thirds loam, one-third leaf-mould & sand. *Position*, pots or borders; shoots trained close to roof for stove & greenhouse species; south walls & arbours for hardy species. *Pot* or plant, Mar. *Water* freely in sum., little in winter. *Temp.*, stove species, Mar. to Sept. 70° to 80°, Sept. to Mar. 60° to 65°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in light rich soil in temp. 75° in Mar.; cuttings in similar soil & temp., Feb.

Armenian Grape Hyacinth (*Muscaria armeniacum*)—see Muscaria.

Armeria (Thrift, Sea-pink, Lady's Pincushion, Cushion-pink).—*Ord.* Plumbaginaceæ. Hardy perennial alpines. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1800. *Species* cultivated, 7. *Ht.* 3 to 12 in. *Flowers*, rose, crimson; May & June. *Soil*, sandy loam. *Position*, open borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in pans in cold frame, Ap.; division of plants in Oct. or Mar.

Arnebia (Prophet flower, Russian Bugloss). — *Ord.* Boraginaceæ. Hardy herbaceous perennial. *Nat.* Armenia. *Species* cultivated, 1. *Ht.* 9 to 12 in. *Flowers*, yellow, purple; May. *Soil*, ordinary. *Position*, open rockery, well drained. *Plant*, Oct. or Mar. *Propagate* by cuttings inserted in sandy soil in Sept. in cold frame.

Arpophyllum.—*Ord.* Orchidaceæ. Greenhouse terrestial orchids. Evergreen. *Nat.* New Grenada, Mexico. *Species* cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, rosy-purple, dark red; Ap., July, Jan. *Compost*, good fibry peat & charcoal. *Pot*, Feb. or Mar. *Position*, well drained pots. *Temp.*, Oct. to Feb. 45° to 55; other times 55° to 65°. *Water* moderately in winter, freely in sum. *Propagate* by division of plants when repotting.

Arrow-Head (*Sagittaria sagittæfolia*)—see Sagittaria.

Arrow-Leaved Violet (*Viola sagittata*)—see Viola.

Arrow-Root Plant (*Maranta arundinaceæ*)—see Maranta.

Arrow-Wood Tree (*Viburnum ellipticum*) —see Viburnum.

Artemisia (Old Man, Old Woman, Mug-wort, Wormwood, Tarragon, Southern-wood).—*Ord.* Compositæ. Hardy shrubs & herbaceous perennials with hoary & fragrant foliage. Evergreen & deciduous. *Nat.* Siberia, S. Europe, Norway, Britain. *Int.* (foreign species) 1548. *Species* cultivated, 9. *Ht.* 6 in. to 5 ft. *Flowers*, yellow, white; June to Aug. *Soil*, ordinary. *Position*, open border for tall species, rockery for dwarf kinds. *Plant*, Oct or Mar.

Propagate shrubby kinds by cuttings inserted in shady border July to Sept.; herbaceous species by division of roots in Oct. or Mar.; both by seeds sown in light soil in cold frame in Mar.

Artic Bramble (*Rubus articus*)—see Rubus.

Artichoke—see Globe & Jerusalem Artichokes.

Artillery Plant (*Pilea muscosa*)—see Pilea.

Artocarpus (Bread-fruit or Jack-tree).—*Ord.* Urticaceæ. Stove evergreen trees. Orn. foliage. *Nat.* South Sea Islands. *Int.* 1793. *Species* cultivated, 2. *Ht.* 7 to 50 ft. *Leaves*, large, crimson or green. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Feb., Mar. *Position*, shady & moist. *Prune* into shape, Feb. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 60°. *Propagate* by stem-rooting firm shoots in Feb., Mar.; suckers at any time.

Arum (Cuckoo-pint, Lords & Ladies, Common Dragon, Adder's Meat, Mandrake, Italian Arum).—*Ord.* Aroideæ. Stove, greenhouse, & hardy herbaceous perennials; only the latter worth growing. *Nat.* Britain, S. Europe, Channel Islands. *Int.* (foreign species) 1570. *Species* cultivated, 5. *Ht.* 6 in. to 2 ft. *Flowers*, yellow, purple; Mar. to July. *Soil*, rich, light. *Position*, sunny borders & bogs. *Propagate* by division of roots in Ap.

Arum Lily (*Richardia æthiopica*)—see Richardia.

Arundinaria (Bamboo).—*Ord.* Gramineæ. Hardy shrubby grasses. Orn. foliage. *Nat.* India, Japan. *Species* cultivated, 2. *Ht.* 3 to 6 ft. *Soil*, deep, rich, moist. *Position*, lawns, shrubberies, sheltered; not hardy N. of England. *Plant*, Ap. *Propagate* by division of roots in Ap.

Arundo (Reed-grass).—*Ord.* Gramineæ. Hardy perennial grasses. Flowering & orn. foliage. *Nat.* New Zealand, S. Europe. *Int.* 1648. *Species* cultivated, 3. *Ht.* 3 to 12 ft. *Flowers*, white or red; Aug. to Oct. *Soil*, loamy. *Position*, moist, sheltered, lawns. *Plant*, Ap. *Propagate* by division of roots in spring.

Ascending Gentian (*Gentiana adscendens*)—see Gentiana.

Asclepias (Milk-weed, Swallow-wort).—*Ord.* Asclepiadiaceæ. Hardy herbaceous perennials or dwarf shrubs. *Nat.* New England, Canada, Mexico, Virginia, New Jersey. *Int.* 1690. *Species* cultivated, 7. *Ht.* 1 to 4 ft. *Flowers*, white, orange, red, purple, fragrant; June to Sept. *Soil*, rich, light peat. *Position*, sunny borders, damp places. *Plant*, Oct. or Ap. *Propagate* by division of roots in Oct. or Ap. All require protection in severe weather.

Ash-Barberry (*Mahonia aquilifolium*)—see Mahonia.

Ash-Leaf Fern (*Marattia fraxinea*)—see Marattia.

Ash-Leaved Maple (*Acer negundo*)—see Acer.

Ash-Leaved Rose (*Rosa fraxinifolia*)—see Rosa.

Ash-Leaved Sage (*Salvia interrupta*)—see Salvia.

Asiatic Barberry (*Berberis asiatica*)—see Berberis.

Asiatic Globe-Flower (*Trollius asiaticus*)—see Trollius.

Asiatic Stone-Crop (*Sedum asiaticum*)—see Sedum.

Asparagus Bean (*Dolichus sequipedulus*)—see Dolichus.

Asparagus (Sparrow-grass).—*Ord.* Liliaceæ. Hardy, greenhouse, & climbing perennials. Evergreen & deciduous. Orn. foliage. *Nat.* Cape of Good Hope, Canary Islands, Britain. *Int.* (foreign species) 1792. *Species* cultivated, 6. *Ht.* 3 to 12 ft. *Foliage*, dark green, finely divided, graceful. *Compost* for greenhouse species, two parts loam, one part decayed manure & sand. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Soil* for hardy species, rich, sandy. *Position*, sunny, against walls or arbours. *Plant*, Oct. *Propagate* by seeds sown ¼ in. deep in light soil in temp. 75° in Mar.; division of roots in Mar. For culture of asparagus as a vegetable see Addenda.

Aspen (*Populus tremula*)—see Populus.

Asperula (Quinsey-wort, Wood-ruff).—*Ord.* Rubiaceæ. Hardy herbaceous perennials & annuals. *Nat.* Britain, S. Europe. *Int.* (foreign species) 1739. *Species* cultivated, 2. *Ht.* 6 to 12 in. *Flowers*, white, sky-blue; May to Aug. *Foliage*, fragrant when dry. *Soil*, light, rich. *Position*, shade of trees or open borders. *Plant*, Oct., Nov. *Propagate* perennial species by division of roots in Mar.; perennials & annuals by seeds sown ⅛ in. deep in open border in Ap.

Asphodelus (Jacob's Rod, King's Spear, Silver Rod).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* S. Europe. *Int.* 1596. *Species* cultivated, 2. *Ht.* 2 to 5 ft. *Flowers*, white; May to July. *Soil*, ordinary *Position*, shady or open borders. *Plant*, Oct. *Propagate* by division of root Oct. or Ap.

Asphodeline (Yellow Asphodel).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* Asia Minor, Sicily, S. Europe. *Int.* 1596. *Species* cultivated, 3. *Ht.* 18 in. to 4 ft. *Flowers*, yellow, white; May to July. *Soil*, ordinary. *Position*, open or shady borders. *Plant*, Oct. or Mar. *Propagate* by division of roots Oct. or Mar.

Aspidistra (Parlour Palm). — *Ord.* Liliaceæ. Greenhouse plants. Evergreen. Orn. foliage. *Nat.* Japan, China. *Int.* 1822. *Species* cultivated, 2, with variegated variety. *Ht.* 1 to 2 ft. *Leaves*, large, green, or variegated with white. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 50° to 55°. Good window or room plant. *Propagate* by division of roots in Mar.

Aspidium (Shield or Wood Fern).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. *Nat.* N. America, Japan, India, Natal, Madeira, Chili, Phillipines, W. Indies. *Species* cultivated, 17. *Ht.* 1 to 3 ft. *Compost*, two parts peat, one part loam, silver sand & charcoal. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Shade* from sun. *Temp.* for stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. Hardy kinds plant in equal parts peat & loam in shady position in Ap. *Water* freely in sum. *Propagate* by spores similar to *Adiantum.*

Asplenium (Spleen-wort, Oak Fern, Lady Fern, Bird's-nest Fern, Walking-leaf Fern, English Maidenhair, Wall-rue).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. *Nat.* India, Sandwich Islands, America, Queensland, Africa, New Zealand, Madagascar, Asia, Europe, Britain, Ceylon, Australia. *Int.* (foreign species) 1680. *Species* cultivated, 107. *Ht.* 6 in. to 4 ft. *Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Plant* hardy species in equal parts peat & loam in shady position in Ap. *Water* freely in sum. *Propagate* by spores similar to *Adiantum.*

Ass's Foot (*Tussilago Farfara*)—see Tussilago.

Asses Parsley (*Æthusa cynapium*)—see Æthusa.

Aster (Starwort, Michaelmas Daisy).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America, Europe, Siberia. *Int.* 1633. *Species* cultivated, 45. *Ht.* 6 in. to 7 ft. *Flowers*, white, blue, red, purple; July to Nov. *Soil*, ordinary. *Position*, shady, open border, rockeries. *Plant*, Nov. to Mar. *Propagate* by division of roots in Mar. For annual asters see Callistephus.

Astilbe (False Goat's-beard).—*Ord.* Saxifragaceæ. Hardy herbaceous perennials & shrubs. *Nat.* India, Japan. *Species* cultivated, 3. *Ht.* 1 to 3 ft. *Flowers*, white; May. *Soil*, loamy. *Position*, moist, shady borders. *Plant*, Oct. *A. japonica* used largely for pot culture, forcing, & for greenhouses. *Pot* roots in Oct. in equal parts loam & leaf-mould in 5 or 6 in. pots & place in cold frame until required to force. *Water* abundantly whilst growing, very little when at rest. Plants should only be forced one year, then planted out for two years, afterwards lifted for forcing again. *Propagate* by division of roots after flowering. Shrubby species plant in ordinary soil in shrubbery in Nov.

Astragalus (Milk Vetch, Gum Tragacanth-plant).—*Ord.* Leguminoseæ. Hardy perennials & shrubs. Evergreen & deciduous. *Nat.* Europe, Siberia, Persia, N. America, Levant. *Int.* 1570. *Species* cultivated, 17. *Ht.* 2 to 3 ft. *Flowers*, yellow, purple, rose; June, July. *Soil*, ordinary. *Position*, open border for tall, & rockery for dwarf perennials; shrubbery for shrubby species. *Plant*, Oct., Nov., Mar. *Propagate* by seeds sown ¼ in. deep in light soil in cold frame in Mar.

Athyrium—see Aspidium.

Atrange—see Clematis.

Atriplex—see Orache.

Attic Bell-Flower (*Campanula attica*)—see Campanula.

Aubergine—see Egg-Plant.

Aubretia (Purple Rock-cress).—*Ord.* Cruciferеæ. Hardy trailing perennial. Evergreen. *Nat.* Naples. *Int.* 1710. *Species* cultivated, 1. *Ht.* 2 to 4 in. *Flowers*, purple; Mar. to June. *Soil*, ordinary. *Position*, sunny rockery or border. *Plant*, Oct., Nov. *Propagate* by slips dibbled in shady border in June, transplanting them in Nov.; seeds sown in shady border in Ap. This plant may be grown on old walls if seeds are sown in mossy chinks in Mar.; useful also for edgings to borders & for spring bedding.

Aucher's Crocus (*Crocus Aucheri*)—see Crocus.

Aucuba (Spotted Laurel, Variegated Laurel).—*Ord.* Cornaceæ. Hardy evergreen shrub. Orn. foliage. *Nat.* Japan. *Int.* 1783. *Species* cultivated, 1. *Ht.* 3 to 10 ft. *Soil*, ordinary. *Position*, open or in shade; grand town shrub. *Plant*, Oct., Nov., Ap. *Propagate* by seeds sown ¼ in. deep in cold frame in Oct.; cuttings inserted in sandy soil in sheltered border or cold frame in Sept., Oct., Nov. Female aucubas bear red berries freely in winter if a male plant be planted close to them, or if a branch of male blossom be placed on female plant when in bloom. Aucubas useful for pot culture in cool greenhouses or windows in winter.

Aucuba-Leaved Daisy (*Bellis aucubæfolia*)—see Bellis.

Auricula (Primula Auricula).—*Ord.* Primulaceæ. Hardy alpine flowering perennial. Evergreen. *Nat.* European Alps. *Int.* 1596. *Species* cultivated, 1; varieties numerous. *Ht.* 4 in. *Flowers*, various colours; spring. *Alpine* type have blooms one colour, white or yellow eye, stems smooth and free from powder. *Florists'* type, stems & blooms covered with mealy powder; blooms with more than one colour & white, grey, or green-edged petals. *Properties* of florists' auricula: Stem erect, elastic, carrying truss well above foliage; stalk proportionately long to size of petals; pips (blooms) seven to each truss, round; anthers, bold; eye, white, smooth & round; colours, well defined, rich; edges, distinct. *Compost*, two parts turfy loam, one part cow manure, leaf-mould, half a part silver sand. *Position*, choice kinds in 3 in. pots in airy frame or cool greenhouse; others in rich soil in shady borders. *Pot & plant*, Feb. or Mar. *Water* those in pots moderately in winter, freely other times. *Top-dress* with rich soil in Mar. plants that were not repotted. *Liquid manure* apply in a weak state to plants in flower. *Propagate* by seeds sown in pans of light rich soil, just covered with fine soil, in Mar. in cold frame or greenhouse; by offsets in Feb.

Australian Everlasting (*Helichrysum lucidum* or *H. bracteatum*, & *Helipterum Manglesi*)—see Helichrysum & Helipterum.

Australian Flea-Bane (*Erigeron mucronatus*)—see Erigeron.

Australian Giant Lily (*Doryanthes excelsa*)—see Doryanthes.

Australian Hare-Bell (*Wahlenbergia gracilis*)—see Wahlenbergia.

Australian Manna-Tree (*Eucalyptus mannifera*)—see Eucalyptus.

Australian Mistletoe (*Loranthus*)—see Loranthus.

Australian Myrtle (*Acmena floribunda*)—see Acmena.

Australian Native Rose (*Boronia serrulata*)—see Boronia.

Australian Pitcher-Plant (*Cephalotus follicularis*)—see Cephalotus.

Australian Slender-Leaved Myrtle (*Myrtus tennifolia*) — see Myrtus.

Australian Starwort (*Aster argophylla*)—see Aster.

Australian Three-Nerved Myrtle (*Myrtus trinervis*)—see Myrtus.

Australian Tree Fern (*Dicksonia antarctica*)—see Dicksonia.

Australian Vine (*Vitis acatosa*)—see Vitis.

Australian Vine (*Vitis hypoglanea*)—see Vitis.

Australian Water-Lily (*Nymphœa gigantea*)—see Nymphæa.

Austrian Briar (*Rosa lutea*)—see Rosa.

Austrian Dragon's Head (*Dracocephalum austriacum*)—see Dracocephalum.

Austrian Dwarf Rose (*Rosa pumila*)—see Rosa.

Austrian Laburnum-Tree (*Cytisus austriacus*)—see Cytisus.

Austrian Leopard's-Bane (*Doronicum austriacum*)—see Doronicum.

Austrian Maple (*Acer campestre var. austriacum*)—see Acer.

Austrian Rose (*Rosa lutea var. punicea*)—see Rosa.

Austrian Speedwell (*Veronica austriaca*)—see Veronica.

Autumn Bell-Flower (*Gentiana pneumanthe*)—see Gentiana.

Autumn Catch-Fly (*Silene Schaftæ*)—see Silene.

Autumn Crocus (*Colchicum autumnale*)—see Colchicum.

Autumn-Flowering Monkshood (*Aconitum autumnale*) — see Aconitum.

Autumn-Flowering Squill (*Scilla autumnalis*)—see Scilla.

Autumn Gentian (*Gentiana amarella*)—see Gentiana.

Ave Grace (*Ruta graveolens*)—see Ruta.

Avens (*Geum urbanum*)—see Geum.

Awn-Leaved Barberry (*Berberis aristata*)—see Berberis.

Ayrshire Rose (*Rosa arvensis var. scandens*)—see Rosa.

Azalea (Ghent Azalea, Indian Azalea, False Honeysuckle).—*Ord.* Ericaceæ. Greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* N. America, Levant, Japan, China. Indian Azalea int. 1808; Ghent Azalea, 1734. *Ht.* 3 to 10 ft. *Flowers*, various; spring. *Compost*, two parts peat, one part loam, leaf-mould & sand. *Pot* firmly June to Aug. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Prune* straggling shoots after flowering. *Shade* & abundance of air needful. Hardy species plant in peaty soil in Oct. & Nov. *Propagate* by cuttings in sandy soil under bell-glass in temp. 60° to 70° in Mar.; grafting in similar tem. in Mar., the latter being the quickest method of propagation.

Azara.—*Ord.* Bixineæ. Hardy evergreen shrub. Orn. foliage. *Nat.* Chiloe. *Int.* 1873. *Species* cultivated, 1. *Ht.* 6 to 12 ft. *Foliage*, dark green, finely divided, drooping, graceful. *Soil*, ordinary. *Position*, against south wall. *Plant*, Oct. or Ap. *Propagate* by cuttings inserted in sandy soil in temp. 65° in Mar.

Azorean Forget-me-not (*Myosotis azorica*)—see Myosotis.

Azorean Thyme (*Thymus azoricus*)—see Thymus.

Azores Juniper (*Juniperus cedrus var. brevifolia*)—see Juniperus.

Azores Laurel (*Laurus azorica*)—see Laurus.

Azure Larkspur (*Delphinium azureum*)—see Delphinium.

Azure-Flowered Lungwort (*Pulmonaria azurea*)—see Pulmonaria

Azure Stone-Crop (*Sedum cyaneum*)—see Sedum.

Azure Thyme (*Thymus azureus*)—see Thymus.

Babiana (Baboon-root).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.*Cape of Good Hope. *Int.* 1752. *Species* cultivated, 6. *Ht.* 6 to 12 in. *Flowers*, blue, lilac, cream, yellow, crimson, scarlet, fragrant; Ap. to July. *Soil*, light sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Compost* for pot culture, two parts sandy soil & one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs 3 in. deep in each pot in Nov., & cover pots with cocoanut-fibre refuse until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually withhold it, keeping bulbs dry from Sept. to Jan. *Temp.*, Sept. to Feb. 40° to 50°; other times 50° to 60°. *Propagate* by offsets, treated as advised for bulbs.

Babylonian Centaury (*Centaurea babylonica*)—see Centaurea.

Bachelor's Button (*Silene pendula*)—see Silene.

Backwort (*Symphytum officinale*)—see Symphytum.

Bacon-Weed (*Chenopodium album*)—see Chenopodium.

Bactris (Marajah Palm, Tobago Cane, Prickly Pole).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat* America, Brazil. *Int.* 1825. *Ht.* 20 to 50 ft. *Species* cultivated, 2. *Compost*, equal parts loam, leaf-mould & sand. *Pot*, Feb., Mar. *Water* moderately Sept. to Mar., freely afterwards. *Position*, shady & moist in sum. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by removing young plants from base of old one in Mar., & placing these in small pots.

Badger's Bane (*Aconitum meloctonum*)—see Aconitum.

Badmoney (*Meum athamanticum*)—see Meum.

Bæria.—*Ord.* Compositæ. Half-hardy annual. *Nat.* California. *Int.* 1835. *Species* cultivated, 1. *Ht.* 8 to 12 in. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are to flower.

Bahia (Woolly Bahia).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* N. America. *Species* cultivated, 1. *Ht.* 6 to 18 in. *Int.*, date unknown. *Flowers*, yellow; May to Aug. *Leaves*, grey. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. to Ap. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap. or division of old plants in Mar.

Bald Cypress (*Taxodium distichum*)—see Taxodium.

Balearic Box Tree (*Buxus balearica*)—see Buxus.

Balearic Sandwort (*Arenaria balearica*)—see Arenaria.

Balloon Vine (*Cardiospermum halicacabum*)—see Cardiospermum

Balm (*Melissia officinalis*)—see Melissia.

Balm of Gilead (*Cedronella triphylla*)—see Cedronella.

Balm of Heaven (*Oreodaphne californica*)—see Oreodaphne.

Balmony (*Chelone glabra*)—see Chelone.

Balsam Apple (*Momordica balsaminea*)—see Momordica.

Balsam (*Impatiens balsaminea*)—see Impatiens.

Balsam Poplar (*Populus balsamifera*)—see Populus.

Bamboo Cane (*Bambusa arundinacea*)—see Bambusa.

Bambusa (Bamboo Cane, Fortune's Bamboo, Metaké Bamboo, Striped Bamboo, Golden Bamboo).—*Ord.* Gramineæ. Hardy, half-hardy, & greenhouse shrubs. Orn. foliage. *Nat.* India, China, Japan. *Int.* 1730. *Species* cultivated, 6. *Ht.* 1 to 40 ft. *Soil* for outdoor culture, rich loamy. *Position*, moist, sheltered. *Protect* in winter. *Plant*, Ap. *Compost* for pot culture, equal parts leaf-mould, loam & sand. *Pot*, Mar. *Water* carefully in winter, abundantly in sum. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by division of old plants in Mar.

Band Plant (*Vinca major*)—see Vinca.

Baneberry (*Actæa spicata*)—see Actæa.

Bank Cress (*Barbarea præcox*)—see Barbarea.

Banksia (Tasmanian Honeysuckle, Australian Honeysuckle).—*Ord.* Protaceæ. Greenhouse shrubs. Orn. foliage. Evergreen. *Nat.* Australia. *Int.* 1788. *Ht.* 5 to 20 ft. *Species* cultivated, 6. *Leaves*, large, dark green, downy beneath. *Compost*, equal parts peat, loam & sand. *Pot* in Mar. in well drained pots. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of firm shoots in well drained pots of sandy soil in July under bell-glass in temp. 55° to 65°.

Banner Plant (*Anthurium Scherzerianum*)—see Anthurium

Ban-Nut (*Juglans regia*)—see Juglans.

Banyan Tree (*Ficus indica*)—see Ficus.

Baptisia (White, Blue, & Tall False-indigo). — *Ord.* Leguminosæ Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1724. *Species* cultivated, 3. *Ht.* 1 to 5 ft. *Flowers*, white, blue, yellow; June to Aug. *Soil*, ordinary. *Position*, sunny well drained border. *Plant*, Oct. to Ap. *Propagate* by seeds sown ⅛ in. deep in sandy soil in shallow boxes in cold frame in Ap. or in sunny border outdoors in May; division of old plants in Mar.

Barbadoes Cedar (*Juniperus barbadensis*)—see Juniperus.

Barbadoes Cotton Plant (*Gossypium barbadense*)—see Gossypium.

Barbadoes Gooseberry (*Pereskia aculeata*)—see Pereskia.

Barbadoes Lily (*Hippeastrum equestre*)—see Hippeastrum.

Barbadoes Onion (*Ornithogalum scilloides*)—see Ornithogalum.

Barbara's Herb (*Barbarea vulgaris*)—see Barbarea.

Barbarea (St. Barabara's Herb, Winter & American Cress, Double Yellow Rocket).—*Ord.* Cruciferæ. Hardy perennial herbs. *Nat.* Britain. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, open garden. Winter Cress good for salads. Sow seeds of this in drills ¼ in. deep & 9 in. apart in Sept. & Mar. Cut leaves off when required for use. *Water* freely in dry weather. *Propagate* double rocket by division of roots in Mar. Golden-leaved variety of latter very pretty; easily raised from seed sown outdoors in Mar.

Barberry Bark Plant (*Berberis aristata*)—see Berberis.

Barberry (*Berberis aristata*)—see Berberis.

Barber's Brushes (*Dipsacus sylvestris*)—see Dipsacus.

Barfoot (*Helleborus fœtidus*)—see Helleborus.

Bargeman's Cabbage (*Brassica campestris*)—see Brassica.

Barkeria.—*Ord.* Orchidaceæ. Greenhouse orchids. Deciduous. *Nat.* Mexico, Costa Rica, Guatemala. *Int.* 1836. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, white, red, rose; Feb. to Nov. *Compost*, sphagnum moss & fibry peat. *Position*, blocks of wood near the glass. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to Sept. 50° to 65°. *Water* freely twice a day from Ap. to Aug.; at other times give very little. *Propagate* by offsets removed from old plants & fixed to small blocks of wood.

Barleria.—*Ord.* Acanthaceæ. Stove flowering shrub. Evergreen. *Nat.* India, Natal, Mauritius. *Int.* 1759. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, yellow, white, purple; Nov. to July. *Compost*, two parts peat & loam, one part decayed manure & sand. *Pot* in Mar. in well drained pots.

Temp., Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 85°. *Water* moderately in winter, freely in sum. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 85°, Mar. to July.

Barm-Leaf (*Melissa officinalis*)—see Melissa.

Barnabas Thistle (*Centaurea solstitialis*)—see Centaurea.

Barrelier's Bellflower (*Campanula Barrelieri*)—see Campanula.

Barren Ivy (*Hedera helix*)—see Hedera.

Barren Strawberry (*Potentilla fragariastrum*)—see Potentilla.

Barrow Roses (*Rosa spinosisissima*)—see Rosa.

Bartonia (Golden Barton's Flower).—*Ord.* Loasaceæ. Hardy annual. *Nat.* California. *Int.* 1834. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, golden; June to Aug. *Soil*, ordinary. *Position*, sunny well drained border. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are intended to flower.

Barton's Flower (*Bartonia aurea*)—see Bartonia.

Bartramia (Common Apple Moss).—*Ord.* Bryaceæ. A moss of no cultural value; used sometimes for placing on surface of soil of pot plants for decoration.

Base Broom (*Genista tinctoria*)—see Genista.

Base Rocket (*Reseda luteola*)—see Reseda.

Basket Fern (*Nephrodium filix-mas*)—see Nephrodium.

Basket Fuchsia (*Fuchsia procumbens*)—see Fuchsia.

Bass (*Scirpus lacustris*)—see Scirpus.

Basil (*Ocymum basilicum*)—see Ocymum.

Bastard Box Tree (*Eucalyptus leucoxylon*)—see Eucalyptus.

Bastard Balm (*Melittis melissophyllum*)—see Melittis.

Bastard Speedwell (*Veronica spuria*)—see Veronica.

Batatas (Spanish or Sweet Potato).—*Ord.* Convolvulaceæ. Greenhouse climber. Deciduous. Tuberous-rooted. *Nat.* E. Indies. *Int.* 1797. *Ht.* 2 to 4 ft. *Flowers*, white, purple; sum. *Compost*, two parts loam & one part decayed manure. *Plant* tubers singly in 6 in. pots in Feb., in temp. 65°, or 6 in. deep & 8 in. apart in prepared border in greenhouse. *Water* moderately Feb. to May.; freely May to Sept., then give none, keeping tubers dry. Tubers are edible. *Propagate* by division of tubers in Feb.; cuttings of young shoots in Ap.

Batemannia.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* Brazil, Costa Rica, New Grenada. *Int.* 1834. *Species* cultivated, 6. *Ht.* 6 to 12 in. *Flowers*, green, yellow, brown, purple; June to Nov. *Compost*, equal parts fibry peat & sphagnum moss. *Position*, well drained pots, or on blocks of wood. *Repot*, Mar. *Water* three times weekly Ap. to Aug.; once a week other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by division of old plants at potting time.

Bauhinia (Snake-charm, St. Thomas's Tree).—*Ord.* Leguminosæ. Stove flowering shrub. Evergreen. *Nat.* India, Ceylon, Caraccas, Malabar. *Int.* 1690. *Species* cultivated, 4. *Ht.* 6 to 20 ft. *Flowers*, pink, white, yellow, red; June to Aug. *Compost*, equal parts peat & loam, one-sixth sand. *Pot* firmly in Mar. *Position*, light, sunny, moist in sum. *Water* freely Mar. to Sept.; moderately other times. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 75° in July.

Beal's Barberry (*Berberis Beali*)—see Berberis.

Beam Tree (*Pyrus aria*)—see Pyrus.

Bean Tree, Australian (*Bauhinia Hookeri*)—see Bauhinia.

Bean Tree (*Ceratonia siliqua*)—see Ceratonia.

Bean Trefoil—old name for Laburnum. which see

Bear-Bane (*Aconitum arctophnum*)—see Aconitum.

Bear Barley (*Hordeum vulgare var. hexastichum*) – see Hordeum.

Bear-bind (*Convolvulus arvensis, Polygonum convolvulus, & Lonicera perichymenum*)—see Convolvulus, Polygonum, & Lonicera.

Bear Grass (*Yucca filamentosa*)—see Yucca.

Bearded Bellflower (*Campanula barbata*)—see Campanula.

Beard Tongue (*Pentstemon digitalis*)—see Pentstemon.

Bear's-breech (*Acanthus mollis*)—see Acanthus.

Bear's Ear (*Primula auricula*)—see Primula.

Bear's Ear Sanicle (*Cortusa Matthioli*)—see Cortusa.

Bear's-foot (*Helleborus fœtidus & Aconitum napellus*)—see Helleborus & Aconitum.

Bear's Garlick (*Allium ursinum*)—see Allium.

Bear's Grass (*Camassia esculenta*)—see Camassia.

Bear-wort (*Meum athamanticum*)—see Meum.

Beasts' Bane (*Aconitum theriophonum*)—see Aconitum.

Beaucarnea.—*Ord.* Liliaceæ. Greenhouse plants. Evergreen. Orn. foliage. *Nat.* Mexico. *Int.* 1845. *Species* cultivated, 5. *Ht.* 3 to 10 ft. *Leaves*, long, narrow, green. *Compost*, two parts fibrous loam, one part silver sand. *Pot*, Mar., in well drained pots. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in sandy loam in temp. 65° in Feb. or Mar.

Beaufortia (Beaufort Myrtle). — *Ord.* Myrtaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* New Holland. *Int.* 1803. *Ht.* 3 to 8 ft. *Species* cultivated, 2. *Flowers*, scarlet; May to July. *Compost*, equal parts leaf-mould, loam, & peat, one-sixth sand. *Pot & prune*, Mar.; make soil quite firm & drain pots well. *Water* freely May to Aug., moderately at other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of firm shoots inserted in sandy soil in temp. 55° to 65° in sum.

Beaumontia (Nepaul Trumpet-flower).—*Ord.* Apocynaceæ. Stove climber. *Nat.* E. Indies. *Int.* 1820. *Ht.* 8 to 12 ft. *Species* cultivated, 1. *Flowers*, white; June to Aug. *Compost*, equal parts peat & loam, one-sixth sand. *Position*, large tub or border, well drained. Shoots to climb roof. *Pot* or plant, Mar. *Water* abundantly May to Aug., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings inserted in sandy soil in temp. 75° in Mar.

Beaver Tree (*Magnolia glauca*)—see Magnolia.

Bed-bind (*Convolvulus sepium*)—see Convolvulus.

Bede Sedge (*Sparganium rasmosum*)—see Sparganium.

Bedeween (*Betula alba*)—see Betula.

Bedlam Cowslip (*Pulmonaria officinalis*)—see Pulmonaria.

Bee Balm (*Monarda didyma*)—see Monarda.

Bee-bread (*Trifolium pratense*)—see Trifolium.

Beech (*Fagus sylvatica*)—see Fagus.

Beech-fern (*Polypodium phegopteris*)—see Polypodium.

Beech-Wheat (*Polygonum fagopyrum*)—see Polygonum.

Bee-flower (*Ophrys apifera*)—see Ophrys.

Beef-steak Plant (*Begonia Evansiana*)—see Begonia.

Beef-suet Tree (*Shepherdia argentea*)—see Shepherdia.

Bee Larkspur (*Delphinium grandiflorum*)—see Delphinium.

Bee Nettle (*Galeopsis tetrahit & Lamium album*)—see Galeopsis & Lamium.

Bee's Nest (*Daucus carota*)—see Daucus.

Bee Orchis (*Ophrys apifera*)—see Ophrys.

Beet (*Beta vulgaris*)—see Beta.

Beggar's Basket (*Pulmonaria officinalis*)—see Pulmonaria.

Begonia (Elephant's-ear, Beefsteak-plant, Jamaica Wood Sorrel).—*Ord.* Begoniaceæ. Stove & greenhouse plants. Evergreen & deciduous. Flowering & orn. foliage *Nat.* Bolivia, Mexico, India, Java, Japan, China, New Grenada, Eucador, Jamaica, Assam. *Int.* 1777. *Species* cultivated, 25; hybrids & varieties innumerable. *Ht.* 6 in. to 5 ft. *Flowers*, various colours: all times of the year. Tuberous kinds: *Compost*, equal parts leaf-mould, loam, & sand. *Pot* tubers in small pots in Mar. & shift into larger size in May. *Water* moderately Mar. to May, freely May to Sept, moderately Sept. to Nov., none afterwards. Store tubers in cocoanut-fibre refuse Nov. to Mar. *Plant* in open beds in May, lift in Oct. *Propagate* by seeds sown on the surface of fine sandy soil in well drained pan in temp. 65° in Mar.; seeds not to be covered with soil. Ornamental foliage kinds: *Compost*, equal parts peat, loam, leaf-mould, & sand. *Pot*, Mar. *Position*, shady. *Water* freely May to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by leaf cuttings at any time. Winter-flowering kinds: *Compost*, same as for tuberous sorts. *Pot*, Mar. to July. *Water* freely in sum., moderately other times. *Propagate* by cuttings inserted in light sandy soil in temp. 70° in spring, or seeds similar to tuberous kinds.

Belgian Variegated Arborvitæ (*Thuia occidentalis var. compacta*)—see Thuia.

Belladonna Lily (*Amaryllis belladonna*)—see Amaryllis.

Bell-bind (*Convolvulus sepium*)—see Convolvulus.

Bell-bottle (*Scilla nutans*)—see Scilla.

Bellevallia (Roman Squill)—see Hyacinthus.

Belleisle Cress (*Barbarea præcox*)—see Barbarea.

Bellflower (*Campanula calycanthema*)—see Campanula.

Bell-flowered Borage (*Borago laxiflora*)—see Borago.

Bell Heather (*Erica tetralix*)—see Erica.

Bellidiastrum (Daisy Star))—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Austria. *Int.* 1570. *Species* cultivated, 1. *Ht.* 10 to 12 in. *Flowers*, white; June to Aug. *Soil*, light, rich. *Position*, sunny border. *Plant*, Mar. *Propagate* by division of old plants in Mar.

Bellis (Daisy, Bone-flower, Herb Margaret, Gowan, Bairn-wort, Banwort, Apes-on-Horseback, Hen & Chickens Daisy).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* England. *Species* cultivated, 1. *Ht.* 3 in. *Flowers*, white, red; Ap. to June. *Soil*, ordinary. *Position*, sunny or shady. *Plant*, Oct. or Mar. *Propagate* by division of old plant in June, inserting divisions 3 in. apart in shady border; seeds sown ⅛ in. deep in boxes of light soil in cold frame in Mar., transplanting seedlings in open border in July.

Bellium (False Daisy).—*Ord.* Compositæ. Hardy annuals & perennials. *Nat.* Italy, Sardinia, Levant, Morocco. *Int.* 1772. *Species* cultivated, 4. *Ht.* 3 to 6 in. *Flowers*, white, blue, yellow; May to Sept. *Soil*, sandy loam. *Position*, open border sheltered from north-east winds. *Plant*, Ap. *Propagate* perennials by division of plants in Mar.; annuals by seeds sown similar to *Bellis*.

Bell Rose (*Narcip ssuseudo-narcissus*)—see Narcissus.

Bellwort (*Uvularia grandiflora*)—see Uvularia.

Bell-weed (*Centaurea nigra*)—see Centaurea.

Belly-ache Bush (*Jatropha gossypifolia*)—see Jatropha.

Beloperone.—*Ord.* Acanthaceæ. Stove flowering shrubs. Evergreen. *Nat.* New Grenada, Brazil. *Int.* 1832. *Species* cultivated, 3. *Ht.* 2 to 3 ft. *Flowers*, purple, violet; May to Sept. *Compost*, equal parts leaf-mould, loam, & sand. *Pot*, Mar., moderately firm. *Position*, shady, moist. *Temp.*, Sept. to Mar. 60° tc 70°; Mar. to Sept. 70° to 80°. *Water* freely May to Sept., moderately afterwards. Remove points of shoots occasionally in sum. to induce dwarf growth. *Propagate* by cuttings inserted singly in small pots of light sandy soil in temp. 75° in Feb., Mar., or Ap.

Bembil (*Eucalyptus populifolia*)—see Eucalyptus.

Ben (*Silene inflata*)—see Silene.

Bengal Rose (*Rosa bengalensis*)—see Rosa.

Benjamin Bush (*Lindera Benzoni*)—see Lindera.

Benner-Gowan (*Bellis perennis*)—see Bellis.

Benthamia.—*Ord.* Cornaceæ. Hardy flowering shrub. Evergreen. *Nat.* Nepaul. *Int.* 1825. *Species* cultivated, 1. *Ht.* 10 to 15 ft. *Flowers*, white; June to Oct. *Soil*, rich loam. *Position*, well drained border, sheltered from N. & E. winds. *Plant*, Oct. or Ap. *Propagate* by layering shoots in Sept.; seeds sown ½ in. deep in pots of light soil in temp. 55° in spring.

Bent-grass (*Agrostis vulgaris*)—see Agrostis.

Ben-weed (*Senecio Jacobæa*)—see Senecio.

Bent-wood (*Hedera helix*)—see Hedera.

Berberidopsis (Coral-berry).—*Ord.* Berberidaceæ. Hardy climbing shrub S. of England; half-hardy N. Evergreen. Flowering. *Nat.* Chili. *Int.* 1862. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, crimson; sum. *Soil*, sandy loam. *Position*, against south or west wall; protect in severe winter with straw or mats. Good wall shrub for cool greenhouse. *Plant*, Oct. or Ap. *Propagate* by seeds sown ⅛ in. deep in well drained pots of sandy soil, in temp. 55° in Mar.; cuttings of young shoots in similar soil & temp.; layering of shoots in the open in Sept., Oct., or Nov.

Berberis (Barberry, Jaundice-berry, Jaundice-tree).—*Ord.* Berberidaceæ. Hardy flowering & orn.-leaved shrubs. Evergreen & deciduous. *Nat.* Mexico, Chili, Peru, Nepaul, N. America, China, Japan, Britain, Siberia, Straits of Magellan. *Int.* (foreign species) 1790. *Species* cultivated, 22. *Ht.* 1 to 20 ft. *Flowers*, orange, May to Oct. *Compost*, two parts loam, one part peat & sand. *Position*, sunny or shady. *Plant*, Sept., Oct., Mar., Ap. *Propagate* by seeds sown 1 in. deep in sheltered border in Oct. or Nov.; cuttings of firm shoots in sandy soil in cold frame in Sept.; layering shoots in Oct. Berries of Common Barberry (*Berberis vulgaris*) make excellent preserves, candy, or pickle. Inner bark forms a yellow dye for tanning leather.

Berchemia (Supple Jack).—*Ord.* Rhamnaceæ. Hardy climbing shrub. Deciduous. *Nat.* Carolina. *Int.* 1714. *Species* cultivated, 1. *Ht.* 15 ft. *Flowers*, green; June, July. *Soil*, sandy loam. *Position*, against south wall, well drained border. *Plant*, Oct. to Feb. *Prune*, Feb., cutting off soft points of strong shoots & removing weak shoots altogether. *Propagate* by cuttings of shoots 6 in. long inserted half their depth & 3 in. apart in sheltered border in Oct.

Bergamot Mint (*Mentha citrata*)—see Mentha.

Bergamot Oil Plant (*Citrus Bergamia*)—see Citrus.

Bergamot Orange Tree (*Citrus Bergamia*)—see Citrus.

Berkheya (South African Thistle).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* S. Africa. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, purple; Aug. to Nov. *Soil*, ordinary. *Position*, open border. *Plant*, Oct. to Ap. *Propagate* by division of old plants in Mar. or Ap.

Bermuda Lily (*Lilium Harrisi*)—see Lilium.

Bermuda Satin-flower (*Sisyrinchium bermudianum*)—see Sisyrinchium.

Berry-bearing Alder (*Rhamnus frangula*)—see Rhamnus.

Bertolonia.—*Ord.* Melastomaceæ. Stove trailing plants. Orn. foliage. *Nat.* Brazil, Eucador. *Int.* 1850. *Ht.* 3 to 4 in. *Species* cultivated, 3. *Leaves*, upper sides, dark green, white, purple; under sides, pink, purple. *Compost*, equal parts peat, leaf-mould, & sand. *Position*, well drained pans covered with bell-glass in shade. *Pot*, Feb. or Mar. *Temp.*, Sept. to Mar. 60° to 70°; Mar to Sept. 75° to 85°. *Water* daily Ap. to Sept., once or twice a week at other times. *Propagate* by cuttings inserted in light soil in pots or pans under bell-glass in temp. 75° in spring.

Beta (Beet-root, Sicilian-beet, Spinach-beet, Sugar-beet, Mangel-beet).—*Ord.* Chenopodiaceæ. Esculent vegetables & orn. foliage plants. *Nat.* Portugal, S. Europe. *Int.* 1548. *Species* cultivated, 2; varieties numerous. *Leaves*, crimson, white. *Culture of Beet-root:* Sow seeds 1½ in. deep in drills 15 in. apart in May. Thin seedlings in June to 8 in. apart in row. Sandy soil manured for previous crop best. Beet must not succeed spinach or root crops; may follow cabbage tribe, potatos, onions, beans or peas. Lift roots in Nov. & store in cool shed. Suitable artificial manure for beet: Common salt, 3 lbs.; nitrate of soda, 1½ lbs.; superphosphate, 1½ lbs.; saltpetre, 1 lb. *Culture of Spinach-beet:* Sow seeds 1½ in. deep in rows 18 in. apart in Ap. Thin seedlings in May to 9 in. apart in row. Use leaves of this only similar to spinach. Soil & manure as for beet-root. *Culture of Ornamental Beet:* Sow seeds ¼ in. deep in boxes of light soil in temp. 60° to 70° in Mar.; transfer seedlings to cold frame in Ap. & plant in beds in May.

Betel-nut Palm (*Areca catechu*)—see Areca.

Beth-wort (*Trillium erectum*)—see Trillium.

Betony (*Stachys betonica*)—see Stachys.

Betony-leaved Dragon's Head (*Dracocephalum grandiflorum*)—see Dracocephalum.

Betula (Bedewen, Birch-tree, Mountain Mahogany).—*Ord.* Cupuliferæ. Hardy ornamental trees & shrubs. Deciduous. *Nat.* Britain, Siberia, Canada, Carolina, N. America, Russia, Sweden, Lapland, India. *Int.* (foreign species) 1736. *Ht.* 2 to 60 ft. *Species* cultivated, 10; varieties numerous. *Flowers*, white; Ap. to June. *Soil*, ordinary. *Position*, sheltered or exposed in valleys, hills or mountain slopes; good seaside & town trees. *Plant*, Oct. to Mar. *Propagate* by seeds sown on the surface of sandy soil on sheltered borders in Mar.; seeds to be simply pressed in, not covered. Transplant seedlings when one year old. Dwarf birches propagated by layering shoots in Oct.

Bhotan Cypress (*Cupressus torulosa*)—see Cupressus.

Bhotan Pine Tree (*Pinus excelsa*)—see Pinus.

Bidens (Bur Marigold, Black Dahlia, Beggar-ticks, Water Agrimony, Water Hemp).—*Ord.* Compositæ. Hardy annual & perennial herbs. *Nat.* Britain, Mexico. *Int.* (foreign species) 1799. *Ht.* 2 to 8 ft. *Species* cultivated, 4. *Flowers*, crimson, yellow, white; July to Oct. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. or Ap. *Propagate* perennials by division of old plants in Ap.; annuals by seeds sown ⅛ in. deep in sandy soil in temp. 70° in Mar., transplanting seedlings outdoors in May.

Biennial Wormwood (*Artemisia biennis*)—see Artemisia.

Bigarreau Cherry (*Cerasus duracina var. cordigera*)—see Cerasus.

Big Daisy (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Bignonia (Cross Vine, Trumpet-flower).—*Ord.* Bignoniaceæ. Greenhouse & hardy climbing plants. Deciduous. *Nat.* Brazil, Caraccas, N. America, Columbia, Uruguay, Buenos Ayres. *Int.* 1710. *Ht.* 10 to 40 ft. *Species* cultivated, 8. *Flowers*, yellow, orange, pink, crimson, white; Ap. to Dec. *Compost*, two parts loam, one part peat & silver sand. *Pot*, Feb. or Mar. *Position*, light sunny for greenhouse species; south wall for hardy kind. Bed or border must not be more than 3 ft. square for one plant & 18 in. deep. Provide good drainage & make soil firm. *Prune* away one-third of strong shoots & two-thirds of weak shoots in Feb. *Water* freely Ap. to Sept., very little at other times. *Shade* must not be given to greenhouse kinds. *Propagate* by cuttings of young shoots 3 in. long, inserted in well drained pots of sandy soil in temp. 65° to 70° in Ap.

Billbergia.—*Ord.* Bromeliaceæ. Stove flowering plants. Evergreen. *Nat.* Trop. America, Brazil. *Int.* 1826. *Ht.* 1 to 2 ft. Species cultivated, 6. *Flowers*, red, blue, yellow, scarlet; Feb. to May. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Pot*, Mar. *Water* freely always. Good drainage essential. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 70°

to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy peat in temp. 85° in Ap.

Bilberry (*Vaccinium myrtillus*)—see Vaccinium.

Bilsted (*Liquidambar styracifolia*)—see Liquidambar.

Bindwith (*Clematis vitalba*)—see Clematis.

Bindwood (*Hedera helix*)—see Hedera.

Birch (*Betula alba*)—see Betula.

Birch-bark Oil Plant (*Betula alba*)—see Betula.

Birch-leaved Elm (*Ulmus campestris var. betulæfolia*)—see Ulmus.

Birch-leaved Mallow (*Malva scoparia*)—see Malva.

Bird Briar (*Rosa canina*)—see Rosa.

Bird Cherry (*Prunus padus*)—see Prunus.

Bird Cherry-leaved Whortle-berry (*Vaccinium padifolium*) see Vaccinium.

Bird Grass (*Poa trivialis*)—see Poa.

Bird Thistle (*Carduus lanceolatus*)—see Carduus.

Bird's Eye Maple (*Acer saccharinum*)—see Acer.

Bird's Eye Primrose (*Primula farinosa*)—see Primula.

Bird's Eyes (*Veronica chamædrys*)—see Veronica.

Bird's-foot Clover (*Lotus corniculatus*)—see Lotus.

Bird's-foot Rock-Brake Fern (*Pellæa ornithopus*)—see Pellæa

Bird's-foot Stonecrop (*Sedum pulchellum*) – see Sedum.

Bird's-foot Trefoil (*Lotus corniculatus*) see Lotus.

Bird's-foot Violet (*Viola pedata*) – see Viola.

Bird's-nest Fern (*Asplenium nidus*)—see Asplenium.

Bird's-nest Myrtle (*Myrtus communis*)—see Myrtus.

Bird's-nest Orchis (*Neottia nidus-avis*)—see Neottia.

Bird's Tongue (*Senecio paludosus*) – see Senecio.

Birth-wort (*Aristolochia sipho*)—see Aristolochia.

Bishop's Hat (*Epimedium alpinum*) see Epimedium.

Bishop's Leaves (*Scrophularia aquatica*) —see Scrophularia.

Bishop's-wort (*Stachys Betonica*)—see Stachys.

Biting Clematis (*Clematis vitalba*)—see Clematis.

Biting Dragon—old name for Tarragon.

Bitter Almond Tree (*Amygdalus communis var. amara*)—see Amygdalus.

Bitter Apple (*Cucumis colocynthus*) – see Cucumis.

Bitter Cress (*Cardamine pratensis*)—see Cardamine.

Bitter Orange Tree (*Citrus aurantium var. amara*)—see Citrus.

Bitter Root (*Lewisia rediviva*) – see Lewisia.

Bittersweet (*Solanum dulcamara* & *Spiræa ulmaria*)—see Solanum & Spiræa.

Bitter-wort (*Gentiana acaulis*)—see Gentiana.

Bitter Vetch (*Orobus vernus*)—see Orobus.

Bivona's Meadow Saffron (*Colchicum Bivonæ*)—see Colchicum.

Bixia (Arnatto)—*Ord.* Bixineæ. Stove flowering tree. Evergreen. *Nat.* W. Indies. *Int.* 1690. *Ht.* 10 to 30 ft. *Species* cultivated, 1. *Flowers*, pale rose; May to Aug. *Compost*, two parts loam, one part peat & silver sand. *Pot*, Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 75° to 85°. *Propagate* by cuttings of shoots six to twelve months old, inserted in small pots of sandy soil in temp. 85°, June to Aug.

Black American Raspberry (*Rubus occidentalis*)—see Rubus.

Black-berried Holly (*Ilex aquilifolium fructû nigro*)—see Ilex.

Black-berried Honeysuckle (*Lonicera nigra*) see Lonicera.

Blackberry (*Rubus fruiticosus*)—see Rubus.

Black Birch (*Betula lenata*)—see Betula.

Black-cap (*Typha latifolia*)—see Typha.

Black Centaury (*Centaurea nigra*)—see Centaurea.

Black Choke Cherry (*Cerasus hyemalis*)—see Cerasus.

Black Cinnamon-tree (*Pimenta acris*)—see Pimenta.

Black Cypress (*Taxodium distichum*)—see Taxodium.

Black Dahlia (*Bidens atrosanguinea*) - see Bidens.

Black Dogwood (*Prunus padus*)—see Prunus.

Black-eyed Heron's Bill (*Erodium macradenum*)—see Erodium

Black Fig-tree (*Ficus laurifolia*)—see Ficus.

Black-fruited Cherry (*Cerasus nigra*)—see Cerasus.

Black-fruited Mulberry-tree (*Morus nigra*)—see Morus.

Black-fruited Thorn (*Cratægus nigra*)—see Cratægus.

Black Garlic (*Allium nigrum*)—see Allium.

Black Grass (*Bromus sterilis*)—see Bromus.

Black-heads (*Typha latifolia*)—see Typha.

Black Heart (*Vaccinium myrtillus*)—see Vaccinium.

Black Heath (*Erica cinera*)—see Erica.

Black Hellebore (*Helleborus niger*)—see Helleborus.

Blacking Plant (*Hibiscus rosa-sinensis*)—see Hibiscus.

Black Irish Elm (*Ulmus montana var. nigra*)—see Ulmus.

Black Italian Poplar (*Populus Acladesca*) -see Populus.

Black Jack Fork-leaved Oak (*Quercus Catesbæi*)—see Quercus.

Black Jack Oak (*Quercus nigra*)—see Quercus.

Black Lily (*Lilium Camtschatcense*)—see Lilium.

Black Maidenhair Fern (*Adiantum capillus-veneris*)—see Adiantum.

Black Maidenhair Spleenwort (*Asplenium adiantum-nigrum*)—see Adiantum.

Black Martagon Lily (*Lilium dalmaticum*)—see Lilium.

Black Milfoil (*Achillea atrata*)—see Achillea.

Black Mint (*Mentha piperita vulgaris*)—see Mentha.

Black Mountain Ash (*Eucalyptus leucoxylon*)—see Eucalyptus.

Black Mountain Fir (*Abies cephalonica*)—see Abies.

Black New Zealand Pine-tree (*Podocarpus ferruginea* & *P. spicta*)—see Podocarpus.

Black Oak (*Quercus robur*)—see Quercus.

Black Pine-tree (*Pinus austriaca*)—see Pinus.

Black Poplar (*Populus nigra*)—see Populus.

Black-rooted Bitter Vetch (*Orobus niger*)—see Orobus.

Black-rooted Broom (*Genista nigricans*)—see Genista.

Black-rooted Laburnum-tree (*Cytisus nigricans*)—see Cytisus.

Black-rooted Mullein (*Verbascum nigrum*)—see Verbascum.

Black-rooted Pea (*Orobus niger*) see Orobus.

Black-scrub Oak (*Quercus illicifolia*)—see Quercus.

Black Sedge (*Carex atrata*)—see Carex.

Black Spleenwort (*Asplenium adiantum-nigrum*)—see Asplenium.

Black Spruce (*Abies nigra*)—see Abies.

Black Spruce Fir (*Abies nigra*)—see Abies.

Black Spruce of British Columbia (*Abies Menziesi*)—see Abies.

Black Sugar Maple (*Acer saccharinum var. nigrum*)—see Acer.

Black Tap (*Centaurea scabosa*)—see Centaurea.

Black Thorn (*Prunus spinosa*)—see Prunus.

Blackwort (*Symphytum officinale*)—see Symphytum.

Bladder Campion (*Silene inflata*)—see Silene.

Bladder Fern (*Cystopteris fragilis*)—see Cystopteris.

Bladder Herb (*Physalis Alkekengi*)—see Physalis.

Bladder Nut (*Staphylea pinnata*)—see Staphylea.

Bladder Sedge (*Carex vesicaria*)—see Carex.

Bladder Senna (*Colutea arborescens*)—see Colutea.

Bladder Wort (*Utricularia montana*)—see Utricularia.

Blæberry (*Vaccinium myrtillus*)—see Vaccinium.

Blandfordia.—*Ord.* Liliaceæ. Greenhouse bulbous plants. Flowering. Evergreen. Deciduous. *Nat.* N. S. Wales, Tasmania, Australia. *Int.* 1803. *Ht.* 1 to 2 ft. *Flowers*, golden. yellow, crimson, red; June to Sept. *Compost*, equal parts peat, loam, & silver or river sand. *Pot*, Oct. Good drainage, firm potting, & moderate size pots essential. *Water* freely May to Aug., moderately Aug. to Oct. & Feb. to May, none at other times. *Temp.*, Oct. to Feb. 40° to 50°; Feb. to Ap. 50° to 55°; Ap. to Oct. 55° to 65°. *Propagate* by offsets or division of old plants at potting time.

Blanket Beggar's Basket (*Verbascum Thapsus*)—see Verbascum.

Blanket Flower (*Gaillardia grandiflora*)—see Gaillardia.

Blanket Leaf (*Verbascum Thapsus*)—see Verbascum.

Blechnum (Brazilian Tree-fern, Snake Fern, Herring-bone Fern).—*Ord.* Filices. Stove & greenhouse ferns. Evergreen. *Nat.* Trop. America, China, India, Brazil, Peru, S. Africa. *Int.* 1691. *Ht.* 2 to 6 ft. *Species* cultivated, 9. *Compost*, equal parts loam, peat, leaf-mould & sand. *Pot*, Feb or Mar. *Position*, shady. *Water* abundantly Ap. to Sept., moderately afterwards. *Temp.*, stove species, Sept. to Mar.60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on fine sandy peat in well drained pans, in temp. 80°. at any time.

Bleeding Heart (*Cheiranthus Cheiri, Colocasia esculenta, & Dielytra spectabilis*- see Cheiranthus, Colocasia, & Dielytra.

Bleeding Nun (*Cyclamen europæum*)—see Cyclamen.

Bleeding Willow (*Orchis Morio*)—see Orchis.

Blessed Thistle (*Carduus benedictus*)—see Carduus.

Bletia.—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy orchids. Deciduous. *Nat.* China, Japan, W. Indies. Peru, Mexico. *Int.* 1733. *Ht.* 1 to 3 ft. *Species* cultivated, 5. *Flowers*, purple, rose; Sept. to Mar. *Compost*, equal parts loam & leaf-mould. *Pot*, Mar. *Position*, pots with 2 in. of drainage in each. *Water* freely Mar. to Aug., moderately Aug. to Oct., very little afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by division of pseudo-bulbs after flowering.

Blind Eyes (*Papaver rhœas*)—see Papaver.

Blind Nettle (*Lamium album*)—see Lamium.

Blite (*Chenopodium Bonus-Henricus*)—see Chenopodium.

Blood Berry (*Rivina humilis*)—see Rivina.

Blood Elder (*Sambucus ebulus*)—see Sambucus.

Blood Flower (*Hæmanthus coccineus*)—see Hœmanthus.

Blood or Maltese Orange-tree (*Citrus aurantium var. melitensis*)—see Citrus.

Blood-red-flowered Geranium (*Geranium sanguineum*)—see Geranium.

Blood-red Gladiole (*Gladiolus cruentus*)—see Gladiolus.

Blood-red Pitcher-plant (*Nepenthes sanguinea*)—see Nepenthes.

Blood-red Stonecrop (*Sedum cruentum*)—see Sedum.

Blood Root (*Potentilla tormentilla* & *Sanguinaria canadensis*)—see Potentilla & Sanguinaria.

Blood Tree (*Croton gossypiifolium*)—see Croton.

Blood Vine (*Epilobium angustifolium*)—see Epilobium.

Bloody Finger (*Digitalis purpurea*)—see Digitalis.

Bloody Man's Finger (*Orchis mascula* & *Arum maculatum*)—see Orchis & Arum.

Bloody Warrior (*Cheiranthus Cheiri*)—see Cheiranthus.

Blooming Sally (*Epilobium angustifolium* & *E. hirsutum*)—see Epilobium.

Blue African Lily (*Agapanthus umbellatus*) - see Agapanthus.

Blue Alpine Daisy (*Aster alpinus*)—see Aster.

Blue Ash (*Fraxinus quadrangulata*)—see Fraxinus.

Blue Ball (*Scabiosa succisa*)—see Scabiosa.

Blue Beech (*Carpinus americana*)—see Carpinus.

Blue Bell (*Scilla nutans* & *Campanula rotundifolia*)— see Scilla & Campanula.

Blue-berried Dogwood (*Cornus sericea*)—see Cornus.

Blue-berried Honeysuckle (*Lonicera cærulea*)—see Lonicera.

Blue Bitter Vetch (*Orobus cyaneus*)—see Orobus.

Blue Bonnets (*Centaurea cyanus* & *Scabiosa succisa*)—see Centaurea & Scabiosa.

Blue Bottle (*Centaurea cyanus* & *Scilla nutans*) - see Centaurea & Scilla.

Blue Bramble (*Rubus cæsius*)—see Rubus.

Blue Bush (*Ceanothus azureus*)—see Ceanothus.

Blue Buttons (*Scabiosa succisa*)—see Scabiosa.

Blue Chamomile (*Aster tripolium*)—see Aster.

Blue Cowslip (*Pulmonaria angustifolium*)—see Pulmonaria.

Blue Curls (*Iris dichotoma*)—see Iris.

Blue Daisy (*Aster tripolium*)—see Aster.

Blue Dandelion (*Lactuca sonchifolia*)—see Lactuca.

Blue-eyed Peacock Iris (*Iris pavonia*)—see Iris.

Blue eyes (*Veronica chamædrys*)—see Veronica.

Blue False Indigo-plant (*Baptisia australis*)—see Baptisia.

Blue-flowered Bindweed (*Ipomæa cærulea*)—see Ipomæa.

Blue-flowered Fleabane (*Erigeron acris*)—see Erigeron.

Blue-flowered Garlic (*Allium cæruleum*)—see Allium.

Blue-flowered Hydrangea (*Hydrangea hortensis var. cærulea* & *H. japonica var. cærulea*)—see Hydrangea.

Blue-flowered Lupin (*Lupinus insignis*)—see Lupinus.

Blue-flowered Mallow (*Malva limensis*)—see Malva.

Blue-flowered Red-root (*Ceanothus azureus*)—see Ceanothus.

Blue-flowered Virgin's Bower (*Clematis viorna*)—see Clematis.

Blue Gum-tree (*Eucalyptus globulus*)—see Eucalyptus.

Blue Himalayan Poppy (*Meconopsis aculeata*)—see Meconopsis.

Blue Indian Water Lily (*Nymphæa rubra*)—see Nymphæa

Blue Innocence (*Houstonia cærulea*)—see Houstonia.

Blue John (*Taxus stricta*)—see Taxus.

Blue John Yew-tree (*Taxus stricta*)—see Taxus.

Blue & White Lobelia (*Lobelia ramosa* & *L. heterophylla major*)—see Lobelia.

Blue Magnolia (*Magnolia acuminata*)—see Magnolia.

Blue Marguerite (*Agathæa cœlestis*)—see Agathæa.

Blue Mariposa Lily (*Calochortus cæruleus*)—see Calochortus

Blue Mountain Tea-plant (*Solidago odora*)—see Solidago.

Blue Passion-flower (*Passiflora cærulea*)—see Passiflora.

Blue Plaintain Lily (*Funkia cærulea*)—see Funkia.

Blue Rocket (*Aconitum pyramidalis*)—see Aconitum.

Blue Rock Bindweed (*Convolvulus mauritanicus*)—see Convolvulus.

Blue Rock Cress (*Arabis deltoidea*)—see Arabis.

Blue Round-leaved Daisy (*Bellis rotundifolia var. cærulea*)—see Bellis.

Blue Scabious (*Scabious succisa*)—see Scabious.

Blue Seggin (*Iris fœtidissima*)—see Iris.

Blue Spider-wort (*Commelina cœlestis*)—see Commelina.

Blue Stars (*Veronica chamædrys*)—see Veronica.

Blue Tangles (*Vaccinium frondosum*)—see Vaccinium.

Blue Venus' Pride (*Houstonia cœrulea*)—see Houstonia.

Blue Vervain (*Verbena hastata*)—see Verbena.

Blumenbachia.—*Ord.* Loasaceæ. Hardy annual, biennial, & perennial plants. Climbing & trailing. *Nat.* Chili, Peru. *Int.* 1826. *Ht.* 1 to 6 ft. *Species* cultivated, 2. *Flowers*, white; June to Aug. *Soil*, ordinary. *Position*, south bed, border or wall. *Plant* perennials in Ap. *Propagate* annuals by seeds sown $\frac{1}{16}$ in. deep in shallow boxes of light soil in temp. 65° Mar., transplanting seedlings outdoors in June; biennials by seeds sown similar way in Sept., keeping seedlings in greenhouse till May, then planting out; perennials by seed as advised for annuals, or division of roots in Ap.

Blunt-leaved Azalea (*Azalea obtusa*)—see Azalea.

Blunt-leaved Japan Cypress (*Retinospora obtusa*)—see Retinospora.

Blunt-leaved Rock Rose (*Cistus obtusifolius*)—see Cistus.

Blunt-leaved Stonecrop (*Sedum obtusatum*)—see Sedum.

Blunt-toothed Blanket-flower (*Gaillardia amblyodon*)—see Gaillardia.

Blushwort (*Erythræa diffusa*)—see Erythræa.

Blushing Bineweed (*Convolvulus erubescens*)—see Convolvulus.

Boar's Ears (*Primula auricula*)—see Primula.

Bobart's Orange Iris (*Bobartia aurantiaca*)—see Bobartia.

Bobartia (Bobart's Orange Iris).—*Ord.* Iridaceæ. Hardy bulbous plant. *Nat.* Cape of Good Hope. *Int.* 1810. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, orange-yellow; June to Aug. *Soil*, sandy. *Position*, south bed or border well drained, or on rockery. *Plant* bulbs 3 in. deep & 3 in. apart in Oct. *Lift* bulbs after flowering, dry & store away till planting time in cool place. *Propagate* by offsets planted & treated as large bulbs.

Bobbin Joan (*Arum maculatum*)—see Arum.

Bobbins (*Nymphea alba & Nuphar lutea*)—see Nymphea & Nuphar.

Bog Trefoil (*Menyanthes trifoliata*)—see Menyanthes.

Bog Violet (*Pinguicula vulgaris*)—see Pinguicula.

Bohea Tea-plant (*Thea Bohea*)—see Thea.

Bohemian Maple (*Acer Londoni*)—see Acer.

Bolander's Catch-fly (*Silene Bolanderi*)—see Silene.

Bolander's Groundsel (*Senecio Bolanderi*)—see Senecio.

Boliaun (*Senecio Jacobæa*)—see Senecio.

Bolts (*Trollius europæus*)—see Trollius.

Bocconia (Tree Poppy, Tree Celadine)—*Ord.* Papaveraceæ. Hardy herbaceous perennial. Orn. foliage. Flowering. *Nat.* China. *Int.* 1795. *Ht.* 4 to 9 ft. *Species* cultivated, 1. *Flowers*, scarlet & yellow; May to Aug. *Leaves*, finely cut, greyish. *Soil*, rich loamy, well manured. *Position*, open, sunny, sheltered from cold winds. *Plant*, Ap. *Cut down* flower stems after blooming. *Propagate* by cuttings of young shoots growing out of axils of leaves, inserted in small pots of sandy soil, temp. 55° under bell-glass, June to Aug.; by suckers removed from root, placed in pots in cold frame in July. Good plant for pot culture in cool greenhouse or window. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Mar. *Water* freely spring & sum., moderately other times.

Bog Arum (*Calla palustris*)—see Calla.

Bog Bean (*Menyanthes trifoliata*)—see Menyanthes.

Bog Berry (*Vaccinium oxycoccus*)—see Vaccinium.

Bog Bilberry (*Vaccinium uliginosum*)—see Vaccinium.

Bog Myrtle (*Myrica gale*)—see Myrica

Bog Pimpernel (*Anagallis tenella*)—see Anagallis.

Boltonia (False Chamomile).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, pink; Aug. to Oct. *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. or Ap. *Propagate* by division of roots in Ap.

Bomarea.—*Ord.* Amaryllidaceæ. Greenhouse climbing perennials. Flowering. *Nat.* Bogota, Columbia, Peru, S. America. *Int.*, date unknown. *Ht.* 3 to 20 ft. *Species* cultivated, 4. *Flowers*, rose, vermilion; May to Oct. *Compost*, equal parts peat, leaf-mould, loam & sand. *Pot or plant*, Mar. *Position*, large pots, tubs or beds, well drained. *Water* freely Ap. to Sept., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown ⅛ in. deep in pots of light sandy soil in temp. 65° in Mar.; division of roots in Mar.

Bona-Nox (*Ipomœa Bona-nox*)—see Ipomæa.

Bone-flower (*Bellis perennis*)—see Bellis.

Bone-set (*Symphytum officinale*)—see Symphytum.

Bongardia.—*Ord.* Berbeideæ. Hardy tuberous-rooted perennial. Flowering. *Nat.* Persia, Syria. *Int.* 1740. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, golden yellow; Mar. to May. *Soil*, light sandy. *Position*, south bed or border, well drained. *Plant*, Oct. or Ap. *Protect* in severe weather by covering with handlight or thick layer of cinder ashes. *Propagate* by division of tubers Oct. or Ap., or by seeds sown in shallow boxes of light soil, temp. 55° to 65°, in Mar.

Bontry Tree (*Sambucus nigra*)—see Sambucus.

Boodle (*Chrysanthemum segetum*)—see Chrysanthemum.

Boon Tree (*Sambucus nigra*)—see Sambucus.

Borage (*Borago officinalis*)—see Borago.

Borago (Common Borage, Cool-tankard, Early-flowering Borage, Bell-flowered Borage).—*Ord.* Boraginaceæ. Hardy annual, biennial, & perennial plants. *Nat.* Britain, Corsica, Numidia. *Int.* (foreign species) 1813. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, blue, white; May to Sept. *Soil*, ordinary. *Position*, sunny rockeries, dry banks. *Sow* seeds of common borage annually in Mar. where required to grow, afterwards thinning seedlings to 8 in. apart. *Propagate* annuals & biennials by seed sown as above; perennials by division of roots in Ap.

Borecole (*Brassica oleracea acephala*)—see Brassica.

Boronia (Australian Native Rose).—*Ord.* Rutaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* W. Australia. *Int.* 1794. *Ht.* 1 to 4 ft. *Species* cultivated, 8. *Flowers*, red, rose, pink, carmine, purple; Feb. to Aug. *Compost*, two parts fibrous peat, one part silver sand & pounded charcoal. *Pot* directly after flowering. *Drain* the pots well & make compost quite firm. *Cut* off points of young shoots when 3 in. long to promote bushy growth. *Water* freely Ap. to Sept., moderately afterwards. *Place* plants in semi-shady position outdoors June to Aug. *Temp.*, Sept. to Mar. 45° to 50°· Mar. to

Sept. 50° to 60°. *Propagate* by cuttings of firm young shoots inserted in sandy soil, in temp. 55°, June to Aug., under bell-glass.

Boss Fern (*Nephrodium molle*)—see Nephrodium.

Boston Iris (*Iris virginica*)—see Iris.

Botany Bay Tea (*Smilax glycyphylla*)—see Smilax.

Botrychium (Moon Fern, Moon Wort, Grape Fern, Rattlesnake Fern.)—*Ord.* Filices. Hardy ferns. Deciduous. *Nat.* Britain, N. America. *Int.* (foreign species) 1790. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Compost*, equal parts sandy loam & peat. *Position*, moist, shady. *Plant*, Ap. *Water* freely in dry weather during sum. *Propagate* by division of roots in Ap.

Bottle-flowered Crocus (*Crocus lagenæflorus*)—see Crocus.

Bottle Gourd (*Lagenaria vulgaris*)—see Lagenaria.

Bottle Sedge (*Carex ampullacea*)—see Carex.

Bougainvillea. — *Ord.* Nyctagineæ. Greenhouse climbing plants. Flowering. Deciduous. *Nat.* Brazil, S. America. *Int.* 1829. *Ht.* 10 to 30 ft. *Species* cultivated, 2. *Flowers* (bracts), rose, lilac; May to Nov. *Compost*, two-thirds turfy loam, one-third leaf-mould & sand. *Pot or plant*, Feb. *Position: B. glabra* in pots with shoots trained round wire trellis; *B. speciosa* in bed 3 ft. wide & 18 in. deep, branches & shoots being trained up roof. *Prune* shoots of previous year's growth to within 1 in. of base annually in Feb. *Water* abundantly Mar. to Sept., moderately Sept. to Nov., none afterwards. *Temp.*, Feb. to May 55° to 60°; May to Sept. 65° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by cuttings of young shoots 3 in. long, removed with small portion of branch attached, inserted in 2 in. pots of sandy soil, under bell-glass in temp. 70° to 80°, Mar., Ap. or May.

Bouncing Bet (*Saponaria officinalis*)—see Saponaria.

Bourbon or Faham Tea-plant (*Angræcum fragrans*) — see Angræcum.

Bourbon Lily (*Lilium candidum*)—see Lilium.

Bourbon Palm (*Latania Borbonica*)—see Latania

Boursault Rose (*Rosa alpina*)—see Rosa.

Boussingaultia (Madeira Vine).—*Ord.* Chenopodiaceæ. Half-hardy tuberous-rooted climber. *Nat.* S. America. *Int.* 1835. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; Sept. to Nov. *Soil*, light sandy. *Position*, back wall of greenhouse, or south wall or fence outdoors during sum. *Plant* tubers in small pots in temp. 55° in Mar. for transplanting outdoors in June, or in bed in Feb. for greenhouse culture. *Lift* outdoor tubers in Oct. & store in sand during winter; those in greenhouse bed leave undisturbed. *Water* freely in sum., none in winter. *Propagate* by inserting tubercles removed from the stems in sandy soil in temp. 55° in spring or autumn.

Bouvardia.—*Ord.* Rubiaceæ. Greenhouse flowering plants. Evergreen. *Nat.* S. America, Mexico. *Int.* 1794. *Ht.* 1 to 3 ft. *Species* cultivated, 7; varieties numerous. *Flowers*, scarlet, white, red, rose, yellow, fragrant; Sept. to Mar. *Compost*, equal parts fibrous loam, leaf-mould, peat & silver sand. *Pot*, Mar. *Prune*, Feb., shortening shoots of previous year's growth to within 1 in. of their base. *Water* moderately Feb. to May & Aug. to Nov., freely May to Aug., little Nov. to Feb. *Temp.*, Feb. to Sept. 55° to 75°; Sept. to Feb. 55° to 60°. *Place* plants in cold frame from June to Sept. *Propagate* by cuttings of young shoots 2 in. long, inserted in pots of sandy compost in Mar. in temp. 65°.

Bowman's Root (*Gillenia trifoliata*)—see Gillenia.

Bow-string Hemp of Africa (*Sanseviera guinensis*)—see Sanseviera

Bow-string Hemp of India (*Sanseviera zeylanica*)—see Sanseviera.

Box Berry (*Gaultheria procumbens*)—see Gaultheria.

Box Elder (*Negundo aceroides*)—see Negundo.

Box Holly (*Ruscus aculeatus*)—see Ruscus.

Box-leaved Andromeda (*Andromeda buxifolia*)—see Andromeda.

Box-leaved Barberry (*Berberis fascicularisi*)—see Berberis.

Box-leaved Buckthorn (*Rhamnus frixifolia*)—see Rhamnus.

Box-leaved Myrtle (*Myrtus communis var. tarentina*)—see Myrtus.

Box-leaved Orange-tree (*Citrus buxifolia*) see Citrus.

Box-leaved Privet (*Ligustrum vulgare var. buxifolium*) - see Ligustrum.

Box-leaved Red-root (*Ceanothus buxifolius*) - see Ceanothus.

Boy Love (*Artemisia abrotanum*)—see Artemisia.

Box Thorn (*Lycium barbarum*)—see Lycium.

Brachycome (Swan River Daisy).—*Ord.* Compositæ. Half-hardy annual. Flowering. *Nat.* W. Australia. *Int.* 1843. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, blue, white; June to Sept. *Soil*, ordinary. *Position*, sunny bed or border. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in shallow boxes of light soil in temp. 55° in Mar., transplanting seedlings outdoors in May; or outdoors in Ap. where plants are to flower.

Brachysema. — *Ord.* Leguminosæ. Greenhouse climbing plants. Flowering. Evergreen. *Nat.* New Holland, N. S. Wales. *Int.* 1803. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, scarlet, violet; Mar. to June. *Compost*, equal parts loam, peat, leaf-mould & silver sand. *Pot.* Feb. *Position*, well drained pots or tubs, or beds 3 ft. wide & 18 in. deep; shoots to be trained round wire trellis or up the roof & fully exposed to sun. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in temp. 55° in Mar.; cuttings of shoots inserted in similar soil & temp. under bell-glass in June, July or Aug.; layering shoots in Sept.

Bracken (*Pteris aquilina*)—see Pteris.

Bracted Everlasting (*Helichrysum bracteatum*)—see Helichrysum.

Brahea.—*Ord.* Palmaceæ. Greenhouse palm. Orn. foliage. *Nat.* Mexico. *Int.* 1865. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Compost*, equal parts, peat, loam & sand. *Pot*, Feb. *Water* freely in sum., moderately other times. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 85° in Mar.

Brake Fern (*Pteris aquilina*)—see Pteris

Brake-root (*Polypodium vulgare*)—see Polypodium.

Bramble (*Rubus fruticosus*)—see Rubus.

Bramble-leaved Rose (*Rosa rubifolia*)—see Rosa

Bramble Rose (*Rosa polyantha*)—see Rosa.

Branching Andromeda (*Andromeda racemosa*) - see Andromeda.

Branching Asphodel (*Asphodelus ramosus*)—see Asphodelus.

Branching Bellflower (*Campanula divaricata*) – see Campanula.

Branching Gladiole (*Gladiolus ramosus*) – see Gladiolus.

Branching Larkspur (*Delphinium consolida*)—see Delphinium.

Branching Lobelia (*Lobelia ramosa*)—see Lobelia.

Branching Maidenhair Fern (*Adiantum formosum*) — see Adiantum.

Branching Starwort (*Aster ramosa*)—see Aster.

Branching Wormwood (*Artemisia ramosa*)—see Artemisia.

Branched Broom-rape (*Orobanche ramosa*) see Orobanche.

Branched Spiderwort (*Anthericum liliago*)—see Anthericum.

Brandy Bottle (*Nuphar lutea*)—see Nuphar.

Brandy Mint (*Mentha piperita*)—see Mentha.

Brassavola.—*Ord.* Orchidaceæ. Greenhouse orchids. *Nat.* Central & S. America, Honduras, Mexico. *Int.* 1837. *Ht.* 4 to 12 in. *Species* cultivated, 5. *Flowers*, creamy-white, rose, orange, fragrant; Sept. to Mar.

Compost, sphagnum moss. *Position*, blocks of wood, suspended from roof. *Water* abundantly Mar. to Sept., moderately other times. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plant at potting time.

Brassia.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* N Grenada, Costa Rica, Guatemala, New Guinea, Brazil, Jamaica. *Int.* 1806. *Ht.* 9 to 12 in. *Species* cultivated, 8. *Flowers*, yellow, brown, purple; Mar. to Sept. *Compost*, rough fibrous peat & charcoal. *Pot*, Feb. *Position*, well drained pots. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Oct. to Feb. 50° to 60°; Feb. to Oct. 65° to 85°. *Propagate* by division of plants at potting time.

Brassica (Borecole, Broccoli, Brussels Sprouts, Kale, Cabbage, Colewort, Cauliflower, Savoy, Kohl-Rabi, Turnip).—*Ord.* Cruciferæ. Hardy biennial vegetables. *Nat.* England. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, yellow; May to Aug. *Borecole:* Sow seeds ½ in. deep in drills 6 in. apart in Mar. or Ap.; transplant seedlings 6 in. apart each way in May in open position; plant out permanently 18 in. apart in rows 2 ft. asunder in June or July. *Broccoli:* For autn. use sow seeds ⅛ in. deep in shallow boxes of light soil in temp. 65° in Feb., or in cold frame in Ap.; transplant seedlings 3 in. apart in cold frame, light soil, in Ap. or May; plant out 2 ft. apart in rows 2 ft. asunder in June. For winter use sow seeds ½ in. deep in drills 6 in. apart in open garden in Ap.; transplant seedlings 6 in. apart each way in June; plant permanently 2 ft. apart all ways in July. For spring use sow seeds end of Ap. as for winter kinds; plant out in July. For sum. use sow seeds end of May; plant out in Aug. *Brussels Sprouts:* Sow seeds ⅛ in. deep in boxes of light soil in temp. 65° in Mar., or ½ in. deep in drills 6 in. apart outdoors in Mar.; transplant seedlings 6 in. apart in open position in May; plant in permanent quarters 2 ft. apart all ways in June & July. *Cabbage:* For sum. use sow seeds ⅛ in. deep in boxes of light soil in temp. 65° in Feb.; transplant seedlings 3 in. apart in boxes of light soil & put in cold frame for few weeks; plant out 12 in. apart in rows 18 in. asunder in Ap. For autn. use sow seeds ½ in. deep in drills 6 in. apart in open position in Mar.; transplant seedlings 6 in. apart in May; plant out 12 in. apart in rows 18 in. asunder in June. For spring use sow seeds ½ in. deep in open garden middle of July; transplant seedlings 6 in. apart in Aug.; plant out 12 in. apart in rows 18 in. asunder in Sept. *Colewort:* Sow & treat as advised for spring cabbage; plant 12 in. apart each way. *Cauliflower:* For sum. use sow seeds as advised for early cabbage. For autn. use sow seeds ½ in. deep in drills 6 in. apart in Ap.; transplant seedlings 6 in. apart in May, & plant out 18 in. apart in rows 2 ft. asunder in June. For spring use sow, as in last case, outdoors in Aug.; transplant seedlings in cold frame for the winter & plant out in Ap. *Kale:* See Borecole. *Kohl-Rabi:* Sow seeds thinly outdoors in Mar.; thin seedlings to 3 in. apart in May; plant out 2 ft. apart in rows 3 ft. asunder in June. *Savoy:* Treat as advised for cabbage intended for autn. use. *Turnip:* Sow seeds ½ in. deep in drills 18 in. apart in Feb., Mar., May, June & July. Thin seedlings when three leaves are formed to 8 in. apart. Water freely in dry weather. Lift & store roots in Nov. *Soil* for all the foregoing, rich, liberally manured & deeply dug previous to sowing or planting. *Artificial manure* for cabbage tribe: Salt, 3 lbs.; nitrate of soda, 1½ lbs.; superphosphate, 1½ lbs.; saltpetre, 1 lb., per square rod. *Rotation:* All the foregoing may follow potatos, onions, beans, peas, lettuce or spinach; may be succeeded by carrots, beet, onions or peas.

Bravoa (Scarlet Twin-flower). — *Ord.* Amaryllidaceæ. Half-hardy bulbous plant. Deciduous. *Nat.* Mexico. *Int.* 1841. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, orange, scarlet; May to July. *Soil*, light sandy. *Position*, pots in cool greenhouse or well drained sunny border. *Greenhouse culture:* Put four bulbs in a 5 in. pot, well drained, in Oct. Cover with ashes in cold frame until Jan., then remove to greenhouse. *Water* moderately until foliage turns yellow, then keep soil dry. *Outdoor culture:* Plant bulbs 4 in. deep & 6 in. apart in Oct. Cover soil with cinder ashes during winter. *Propagate* by offsets treated as advised for bulbs.

Brazilian Pine-tree (*Araucaria braziliensis*)—see Araucaria.
Bread & Milk (*Cardamine pratensis*)—see Cardamine.
Bread-fruit Tree (*Artocarpus incisa*)—see Artocarpus.
Break-bones (*Stellaria Holostea*)—see Stellaria.
Breeches Flower (*Dielytra cucullaria*)—see Dielytra.
Brenchley Gladiole (*Gladiolus brenchleyensis*)—see Gladiolus.
Briar Rose (*Rosa canina*)—see Rosa.
Bridal Everlasting (*Gnaphalium Leontopodium*)—see Gnaphalium.
Bride's Lace (*Phalaris arundinacea*)—see Phalaris.
Bridewort (*Spiræa ulmaria*)—see Spiræa.
Bright-Flowered Azalea (*Azalea amœna*)—see Azalea.
Bright Meadow (*Caltha palustris*)—see Caltha.
Brilliant Bird's-eye Primrose (*Primula farinosa var. superba*)—see Primula.
Brilliant Cinquefoil (*Potentilla splendens*)—see Potentilla.
Brilliant Lobelia (*Lobelia fulgens*)—see Lobelia.
Brilliant Lychnis (*Lychnis fulgens*)—see Lychnis.
Brilliant Mariposa Lily (*Calochortus splendens*)—see Calochortus.
Brilliant Stonecrop (*Sedum spectabile*)—see Sedum.
Brilliant Tulip (*Tulipa fulgens*)—see Tulipa.
Brisbane Lily (*Eurycles australasica*)—see Eurycles.
Bristle Fern (*Trichomanes radicans*)—see Trichomanes.
Bristle-pointed Iris (*Iris setosa*)—see Iris.
Bristly Blanket-flower (*Gaillardia aristata*)—see Gaillardia.
Bristly Gooseberry (*Ribes setosum*)—see Ribes.
Bristly Rest-harrow (*Ononis hispida*)—see Ononis.
Bristly Sarsaparilla-plant (*Aralia hispida*)—see Aralia.
Bristly Sun-rose (*Helianthemum hispidium*)—see Helianthemum.
Bristol Rock-cress (*Arabis stricta*)—see Arabis.
Brittle Bladder Fern (*Cystopteris fragilis*)—see Cystopteris.
Briza (Quaking Grass).—*Ord.* Gramineæ. Hardy ornamental flowering grasses. *Nat.* Britain, S. Europe, Brazil. *Int.* (foreign species) 1633. *Ht.* 8 to 18 in. *Species* cultivated, 4. *Flowers*, sum. *Soil*, ordinary. *Position*, sunny beds, borders or banks. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are required to flower. Flowers should be cut & dried for winter decoration when fully developed.
Broad-leaved Arbor-vitæ (*Thuiopsis gigantea*)—see Thuiopsis.
Broad-leaved Bell-flower (*Campanula latifolia*)—see Campanula.
Broad-leaved Birthwort (*Aristolochia sipho*)—see Aristolochia.
Broad-leaved Buckthorn (*Rhamnus latifolia*)—see Rhamnus.
Broad-leaved Butcher's Broom (*Ruscus hypophyllum var. latifolius*)—see Ruscus.
Broad-leaved Common Elm (*Ulmus campestris var. latifolia*)—see Ulmus.
Broad-leaved Cow-parsnip (*Heracleum latifolium*)—see Heracleum.
Broad-leaved Cuckoo-flower (*Cardamine latifolia*)—see Cardamine.
Broad-leaved Ginger (*Zingiber zerumbet*)—see Zingiber.
Broad-leaved Groundsel (*Senecio saracenicus*)—see Senecio.
Broad-leaved Holly (*Ilex latifolia*)—see Ilex.
Broad-leaved Mock Orange (*Philadelphus latifolius*)—see Philadelphus.

Broad-leaved Myrtle (*Myrtus communis var. belgica*)—see Myrtus.

Broad-leaved Pond-weed (*Potamogeton natans*)—see Potamogeton.

Broad-leaved Rock-rose (*Cistus latifolius*)—see Cistus.

Broad-leaved Satin-flower (*Sisyrinchium latifolium*)—see Sisyrinchium.

Broad-leaved Spindle-tree (*Euonymus latifolius*)—see Euonymus.

Broad-leaved Whortle-berry (*Vaccinium amœnum*) — see Vaccinium.

Broad Prickly-toothed Fern (*Lastræa dilatata*)—see Lastræa.

Broad-spinned Holly (*Ilex latispina*)—see Ilex.

Broad Windsor Bean (*Faba vulgaris var. macrosperma*)—see Faba.

Broccoli (*Brassica oleracea var. Botrytis asparagoides*)—see Brassica

Brodie's Lily (*Brodiæa coccinea*)—see Brodiæa.

Brodiæa (Crimson Satin-flower, Vegetable Fire-cracker, Brodie's Lily, Californian Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous plants. Deciduous. *Nat.* California, N. America. *Int.* 1806. *Ht.* 3 to 24 in. *Species* cultivated, 8. *Flowers*, blue, yellow, purple & white; June to Aug. *Soil*, rich sandy loam. *Position*, warm well drained border. *Plant* bulbs Sept. & Oct., 4 in. deep & 3 in. apart. *Lift* & replant bulbs annually. *Propagate* by seeds sown ⅛ in. deep in sandy soil in cold frame in Mar.; by offsets treated as advised for bulbs.

Bromus (Black Grass, Brome Grass).—*Ord.* Gramineæ. Hardy ornamental flowering grasses. Biennial. *Nat.*, unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, sum. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown ⅛ in. deep in Sept. or Ap. where plants are required to grow. Flowers useful for drying for winter decoration; cut them when fully developed.

Broom Pine-tree (*Pinus australis*)—see Pinus.

Broughtonia.—*Ord.* Orchidaceæ. Stove orchid. Evergreen. *Nat.* Jamaica. *Int.* 1783. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, crimson; June to Aug. *Compost*, sphagnum moss. *Position*, blocks of wood. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Oct. to Feb. 55° to 60°; Feb. to Oct. 65° to 85°. *Propagate* by division of plant at potting time.

Browallia.—*Ord.* Scrophularineæ. Greenhouse annuals. Flowering. *Nat.* Peru, Rocky Mountains, Panama. *Int.* 1735. *Ht.* 6 in. to 3 ft. *Species* cultivated, 5. *Flowers*, blue, orange; June to Aug. *Compost*, equal parts loam & leaf-mould, with little sand. *Sow* seeds 1/16 in. deep in fine light soil in Mar. in temp. 55° to 65°. When seedlings appear transplant three or four into each 5 in. pot, keep on a shelf in greenhouse, & water moderately. Apply weak manure water in May & June. Will flower in cool greenhouse. *Temp.*, Mar. to June 55° to 60°. Seedlings may be planted outdoors in June to flower during sum.

Brown-berried Juniper (*Juniperus oxycedrus*)—see Juniperus.

Brown-branched Ash (*Fraxinus americana fusca*)—see Fraxinus.

Brown Bugle (*Ajuga reptans*)—see Ajuga.

Brown Indian Hemp (*Hibiscus cannabinus*)—see Hibiscus.

Brown-stalked Magnolia (*Magnolia fuscata*)—see Magnolia.

Brown's Rose (*Rosa Brunoni*)—see Rosa.

Brown's Stonecrop (*Sedum Browni*)—see Sedum.

Broussonetia (Paper Mulberry).—*Ord.* Urticaceæ. Hardy deciduous tree. Orn. foliage. *Nat.* China. *Int.* 1751. *Ht.* 10 ft. *Species* cultivated, 1. *Leaves*, large, lobed, mulberry-shaped. *Soil*, rich loamy. *Position*, sheltered. *Plant*, Oct. to Mar. *Propagate* by cuttings inserted in sandy soil in cold frame in Oct., or suckers in Oct. or Nov.

Brownea (West Indian Mountain Rose).—*Ord.* Leguminosæ. Stove flowering shrubs. Evergreen. *Nat.* Caraccas. Venezuela, Central America.

Int. 1820. *Ht.* 4 to 20 ft. *Species* cultivated, 5. *Flowers*, scarlet, red; Ap. to Aug. *Compost*, equal parts peat & loam, little sand. *Pot*, Feb. or Mar. *Water* moderately in sum., occasionally at other times. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 85°. *Propagate* by cuttings of firm shoots inserted in sandy peat, in temp. 80° under bell-glass, in spring.

Brunsvigia (Candelabra-flower).—*Ord.* Amaryllidaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1752. *Ht.* 9 to 18 in. *Species* cultivated, 3. *Flowers*, red, scarlet; May to Aug. *Compost*, equal parts peat, loam & sand. *Pot*, Sept. *Water* only when new growth begins, then give moderate quantity; cease to give any after leaves turn yellow. *Temp.*, Sept. to Nov. 50° to 55°; Nov. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. Plants must have full exposure to sun. *Propagate* by offsets inserted in small pots & grown similar to large bulbs.

Brussels Sprouts (*Brassica oleracea bullata gemnifera*)—see Brassica

Bryanthus.—*Ord.* Ericaceæ. Hardy trailing shrub. Evergreen. *Nat.* Siberia. *Int.*, date unknown. *Ht.* 8 to 12 in. *Flowers*, red; spring. *Species* cultivated, 1. *Soil*, sandy peat. *Position*, moist rockery. *Plant*, Oct. or Ap *Propagate* by division of plants in Ap., or layering in Oct.

Buchanan's Speedwell (*Veronica Buchanani*)—see Veronica.

Buck-eye (*Pavia rubra*)—see Pavia.

Buck Grass (*Lycopodium clavatum*)—see Lycopodium.

Buck Horn Brake (*Osmunda regalis*)—see Osmunda.

Buckler Fern (*Lastræa filix-mas*)—see Lastræa.

Buckrams (*Allium urisum*)—see Allium.

Buckthorn (*Rhamnus catharticus*)—see Rhamnus.

Buddleia (Orange-ball-tree).—*Ord.* Loganiaceæ. Hardy flowering shrub. Evergreen. *Nat.* Chili. *Int.* 1774. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, orange; May. *Soil*, light rich. *Position*, border against south or south-west wall. *Plant*, Oct. or Ap. *Prune* away dead or straggly shoots only. *Propagate* by seeds sown in light soil in a temp. of 60° in Mar.; by cuttings of firm shoots inserted in pots of sandy soil in cold frame in Sept.

Buffalo Currant (*Ribes aureum*)—see Ribes.

Buff-coloured Lily (*Lilium testaceum*)—see Lilium.

Buff-coloured Mallow (*Malva lateritia*)—see Malva.

Bugbane (*Actæa racemosa*)—see Actæa.

Bugle Lily (*Watsonia rosea*)—see Watsonia.

Bugloss Cowslip (*Pulmonaria officinalis*)—see Pulmonaria.

Bugloss (*Echium vulgare*)—see Echium.

Bulb-bearing Lily (*Lilium bulbiferum*)—see Lilium.

Bulb-bearing Tooth-wort (*Dentaria bulbifera*)—see Dentaria.

Bulbocodium (Meadow Saffron).—*Ord.* Liliaceæ. Hardy bulbous plant. *Nat.* Spain. *Int.* 1649. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, violet-purple; Mar., before leaves. *Soil*, ordinary. *Position*, sunny or shady beds or borders. *Plant* bulbs 3 in. deep & 3 in. apart in Sept. *Lift* & replant bulbs every second year. *Propagate* by offsets obtained when lifting the bulbs.

Bulbous-rooted Crow-foot (*Ranunculus bulbosus*)—see Ranunculus.

Bulbous-rooted Ranunculus (*Ranunculus bulbosus*)—see Ranunculus.

Bulbous Violet—old name for the Snowdrop.

Bullace (*Prunus insititia*)—see Prunus.

Bull Daisy (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Bullet Grape (*Vitis vulpina*)—see Vitis.

Bull Grape (*Vitis rotundifolia*)—see Vitis.

Bullock's-eye (*Sempervivum tectorum*)—see Sempervivum.

Bullock's Lungwort (*Verbascum Thapsus*)—see Verbascum.

Bull Pine-tree (*Pinus ponderosa*)—see Pinus.

Bullrush (*Scirpus lacustris* & *Typha latifolia*)—see Scirpus & Typha.

Bull's Head Orchid (*Anguloa Clowesi*)—see Anguloa.

Bullweed (*Centaurea nigra*)—see Centaurea.

Bul-rose (*Narcissus pseudo-narcissus*)—see Narcissus.

Bunch Berry (*Cornus canadensis*)—see Cornus.

Bunch Flower (*Melanthium virginicum*)—see Melanthium.

Bundle-flowered Andromeda (*Andromeda fasciculata*) — see Andromeda.

Bundle-flowered Barberry (*Berberis corollina*)—see Berberis.

Bunge's Campion (*Lychnis Bungeana*)—see Lychnis.

Bunya-Bunya Pine-tree (*Araucaria Bidwelli*)—see Araucaria.

Bupthalmum (Yellow Ox-eye, Willow-leaved Ox eye) —*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Austria, S. Europe. *Int.* 1722. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow; June to Oct. *Soil*, ordinary. *Position*, open sunny border. *Plant*, Oct. or Mar. *Propagate* by division of old plants in Oct. or Mar.

Bupleurum (Shrubby Hare's ear).—*Ord.* Umbelliferæ. Hardy shrub. Evergreen. *Nat.* Spain. *Int.* 1596. *Ht.* 3 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; July. *Soil*, ordinary. *Position*, warm border. *Plant*, Oct. or Ap. *Propagate* by cuttings inserted in sandy peat in cold frame in Oct. or Mar.

Burbidgea.—*Ord.* Scitamineæ. Stove herbaceous plant. Flowering. *Nat.* Borneo. *Int.* 1879. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, orange-scarlet; June to Aug. *Compost*, equal parts peat, leaf-mould & loam. *Position*, large pots, tubs or beds. *Plant*, Mar. *Water* freely Mar. to Aug., moderately other times. *Propagate* by division of roots in Ap.

Burchellia (Bufflehorn-wood).—*Ord.* Rubiaceæ. Stove flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.*, date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, scarlet; Ap. *Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Mar. *Water* freely Ap. to Sept., moderately other times. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 75° in Mar., Ap. or May.

Burger's Columbine (*Aquilegia Burgeriana*)—see Aquilegia.

Burke's Tree (*Cyathea Burkei*)—see Cyathea.

Burk Tree (*Betula alba*)—see Betula.

Burlingtonia.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* S. America, Demerara, Brazil. *Int.* 1834. *Ht.* 6 to 12 in. *Species* cultivated, 7. *Flowers*, white, rose, pink, fragrant; Ap. to Oct. *Compost*, sphagnum moss. *Position*, blocks of wood, suspended from roof. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plants at potting time.

Bur Marigold (*Bidens tripartita*)—see Bidens.

Burnet (*Sanguisorba officinalis*)—see Sanguisorba.

Burnet Rose (*Rosa spinosissima*)—see Rosa.

Burnet Saxifrage (*Pimpinella saxifraga*)—see Pimpinella.

Burning Bush (*Dictamnus fraxinella*)—see Dictamnus.

Burn or Potato Onion (*Allium cepa var. aggregatum*)—see Allium.

Burnt-weed (*Scolopendrium vulgare*)—see Scolopendrium.

Bur Oak (*Quercus macrocarpa*)—see Quercus.

Burser's Gentian (*Gentiana Burseri*)—see Gentiana.

Burser's St. John's-wort (*Hypericum Burseri*)—see Hypericum.

Burser's Saxifrage (*Saxifraga Burseriana*)—see Saxifraga.

Bur Tree (*Sambucus nigra*)—see Sambucus.

Bush Arbor-vitæ (*Thuia dumosa*)—see Thuia.
Bush Basil (*Ocymum minimum*)—see Ocymum.
Bush Honeysuckle (*Weigela rosea*)—see Weigela.
Bush Pink (*Dianthus ramosissimus*)—see Dianthus.
Bushy Starwort (*Aster dumosus*)—see Aster.
Bushy Whortle-berry (*Vaccinium dumosum*)—see Vaccinium.
Butcher's Broom (*Ruscus aculeatus*) – see Ruscus.

Butomus (Flowering Rush, Winter Gladiolus, Lily Grass).—*Ord.* Alismaceæ. Hardy perennial aquatic. *Nat.* England. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, rose; June to Aug. *Soil*, ordinary. *Position*, margins of ponds, lakes, etc. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or Ap.

Butter & Eggs (*Narcissus incomparabilis plenus*)—see Narcissus.
Butter Bean (*Phaseolus vulgaris*)—see Phaseolus.
Butter Bur (*Petasites vulgaris*)—see Petasites.
Butter Bush (*Cephalanthus occidentalis*)—see Cephalanthus.
Buttered Haycocks (*Linaria vulgaris*)—see Linaria.
Butterfly Flower (*Schizanthus pinnatus*)—see Schizanthus.
Butterfly Iris (*Moræa papilionacea*)—see Moræa.
Butterfly Orchid (*Oncidium papilio*)—see Oncidium.
Butterfly Orchis (*Habenaria chlorantha* & *H. bifolia*)—see Habenaria
Butterfly Pea (*Clitoria Mariana*)—see Clitoria.
Butterfly Plant (*Phalænopsis amabilis*)—see Phalænopsis.
Butterfly Tulip (*Calochortus uniflorus*) - see Calochortus.
Butterfly-weed (*Asclepias tuberosa* & *Calochortus venustus*) — see Asclepias & Calochortus.
Butter-weed (*Erigeron canadensis* & *Senecio lobatus*)—see Erigeron & Senecio.
Butterwort (*Pinguicula vulgaris*)—see Pinguicula.
Button-hole (*Scolopendrium vulgare*)—see Scolopendrium.
Buttons (*Tanacetum vulgare*)—see Tanacetum.
Button Snake-root (*Liatris pycnostachya*)—see Liatris.
Button-weed (*Centaurea nigra*)—see Centaurea.
Button-wood (*Platanus occidentalis*)—see Platanus.

Buxus (Box-tree).—*Ord.* Euphorbiaceæ. Hardy shrub. Evergreen. Orn. foliage. *Nat.* England, S. Europe. *Int.* (foreign species) 1780. *Ht.* 6 in. to 20 ft. *Species* cultivated, 2. *Leaves*, green, golden or silver variegated. *Soil*, ordinary. *Position*, open or shady, shrubberies or banks. *Plant*, Mar., Ap., Sept., Oct. *Propagate* by cuttings of young shoots 3 in. long inserted in shady border in Aug. or Sept.; division of old plants in Oct. or Mar.; layering in Sept. & Oct. *Box edgings:* Dwarf Box (*B. suffruticosa*) used for this purpose. *Plant* divisions with roots attached in shallow trench 6 in. deep in Oct., Nov. or Mar. Allow plants to nearly touch each other, & to have their tips about 2 in. above soil. Press soil firmly. Trim plants Ap. or Aug. Nursery yard of box will make three yards of edging.

Byzantine Crocus (*Crocus Byzantinus*)—see Crocus.
Byzantine Meadow Saffron (*Colchicum Byzantinum*) — see Colchicum.
Cabbage (*Brassica oleracea*)—see Brassica.
Cabbage Lettuce (*Lactuca capitata*)—see Lactuca.
Cabbage Palm (*Areca oleracea* & *Chamærops palmetto*)—see Areca & Chamærops.
Cabbage Palm of Australia (*Cordyline australis*)—see Cordyline.
Cabbage Palm of New South Wales (*Seaforthia elegans*) — see Seaforthia.

Cabbage Rose (*Rosa centifolia*)—see Rosa.

Cabbage Tree (*Corypha australis*)—see Corypha.

Cacalia (Sweet Centaury, Tuberous Indian Plantain).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1752. *Species* cultivated, 2. *Ht.* 2 to 5 ft. *Flowers*, white; June to Nov. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in open garden in Ap., or division of roots in Oct. or Ap.

Cactus.—Popular name for the following plants:—Cereus, Echinocactus, Epiphyllum, Mammilaria, Melocactus, Opuntia, Pereskia, Phyllocactus, & Rhipsalis, which see for culture.

Cactus Dahlia (*Dahlia Juarezi*)—see Dahlia.

Caffre Butter (*Combretum butyrosum*)—see Combretum.

Caffre Lily (*Schizostylis coccinea*)—see Schizostylis.

Cain-&-Abel.—Tubers of *Orchis latifolia*.

Cakile (Sea Rocket).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Europe, N. America. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, lilac; June to Sept. *Soil*, sandy. *Position*, open borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep where plants are to flower in Mar. or Ap.

Calabash (*Passiflora maliformis*)—see Passiflora.

Calabrian Pine-tree (*Pinus laricio*)—see Pinus.

Caladium (Indian Kale, Taro).—*Ord.* Aroideæ. Stove deciduous perennials. Tuberous-rooted. Orn. foliage. *Nat.* Amazons, Brazil, Para, S. America. *Int.* 1773. *Ht.* 6 in. to 3 ft. *Species* cultivated, about 12; varieties numerous. *Leaves*, green, white, crimson, red, rose. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots in shade. *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov.; freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80°; Sept. to Nov. 65° to 75°; Nov. to Feb. 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Calamint (*Calamintha grandiflora*)—see Calamintha.

Calamintha (Tom Thumb Calamint, Large-flowered Calamint).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* Europe. *Int.* 1596. *Species* cultivated, 2. *Ht.* 3 to 12 in. *Flowers*, lilac, purple, fragrant; June to Aug. *Soil*, ordinary. *Position*, sunny rockeries & borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in Ap.; cuttings of side shoots in cold frame in spring; division of roots in Oct. or Ap.

Calamus (Dragon's-blood Palm, Chair-bottom Cane Palm).—*Ord.* Palmaceæ. Stove palms. Evergreen. Orn. foliage. *Nat.* India, E. Indies, Himalayas, Java. *Int.* 1819. *Ht.* 3 to 20 ft. *Species* cultivated, 16. *Leaves*, large, finely divided. *Compost*, two parts turfy loam, one part leaf-mould & coarse sand. *Position*, well drained pots in shade. *Pot* firmly in Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 85°. *Propagate* by seeds sown 1 in. deep in light soil, in temp. 80° in Mar.; by suckers growing from roots, inserted in small pots of light soil under bell-glass in temp. 80°.

Calandrinia (Common Rock-Purslane, Shining Rock-Purslane, Umbel-flowered Rock-Purslane).—*Ord.* Portulaceæ. Hardy annuals, biennials, & perennials. *Nat.* California, Chili, Peru. *Int.* 1826. *Ht.* 6 to 18 in. *Species* cultivated, 5. *Flowers*, rose, crimson, magenta; June to Sept. *Soil*, light, moderately rich. *Position*, sunny rockery for dwarf species; borders for tall species. *Plant* perennials in Ap. *Propagate* annuals by seeds sown $\frac{1}{16}$ in. deep in shallow boxes of light soil in temp. 55° to 60° in Mar., transplant seedlings into small pots in Ap., & plant out in June, or sow seeds outdoors where plants are to flower in Ap.; biennials by seeds sown in heat similar to annuals: perennials by division of roots in Ap.

Calanthe.—*Ord.* Orchidaceæ. Stove terrestial orchids. Deciduous;

one species (*Sieboldi*) evergreen. *Nat.* Australia, Borneo, Burmah, Cochin China, Ceylon, India, Philippines. *Int.* 1819. *Ht.* 10 in. to 2 ft. *Species* cultivated, 20; varieties numerous. *Flowers*, white, yellow, rose; Nov. to Feb. *Compost*, two parts loam, one part decayed manure & leaf-mould. *Position*, pots with a third of drainage in each. *Pot* firmly in Mar. Cover drainage with layer of moss & do not allow compost to be higher than within ½ in. of rim. *Water* deciduous kinds freely Ap. to Sept.; moderately Sept. to Jan.; keep quite dry afterwards; evergreen kinds water freely at all times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Jan. 60° to 70°; Jan. to Mar. 55° to 65°. *Propagate* by division of pseudo bulbs in Mar.

Calathea (Zebra Plant). — *Ord.* Scitamineæ. Stove plants. Orn. foliage. *Nat.* Brazil, Columbia, Peru, Trop. America. *Ht.* 6 in. to 2 ft. *Species* cultivated, 25; varieties numerous. *Leaves*, green, rose, yellow, white & olive on upper sides; rosy-purple beneath. *Compost*, equal parts coarse lumps of loam, peat, leaf-mould & sand. *Position*, well drained pots in shade. *Pot*, Mar., moderately firm. *Water* freely Ap. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 65° to 70°. *Propagate* by division of roots in Mar.

Calathian Violet (*Gentiana pneumonanthe*)—see Gentiana.

Calceolaria (Slipper-flower, Slipper-wort). — *Ord.* Scrophulariaceæ. Half-hardy or greenhouse shrubs & herbaceous perennials. *Nat.* Chili, Falkland Islands, Peru. *Int.* 1733. *Ht.* 3 in. to 3 ft. *Species* cultivated, 21; varieties several. *Flowers*, yellow, violet, red, brown, white; May to Nov. *Herbaceous kinds:* Sow seeds on surface of fine soil in well drained pans or shallow boxes in July. Cover box or pan with sheet of glass & stand them under bell-glass or in cold frame. Shade from sun & keep moderately moist. Transplant seedlings 1 in. apart in fine soil in Aug., transfer them singly into 2 in. pots in Sept., into 5 in. in Oct., & 6 or 7 in. in Mar. *Compost*, two parts sandy loam, one part leaf-mould, decayed manure & sand. *Water* moderately until Ap., then apply freely. Apply liquid manure from Ap. till plants are in flower. *Temp.*, Aug. to Mar. 45° to 50°; Mar. to May 50° to 55°. Discard plants after flowering. *Shrubby kinds : Compost*, same as for herbaceous kinds. *Position*, pots in windows or greenhouses, or in sunny or shady beds outdoors in sum. *Pot* in Mar.; plant in May. *Propagate* by cuttings 3 in. long inserted in sandy soil in cool shady frame in Sept. or Oct., or in pots or boxes in cool greenhouse or window in Sept. Cuttings to remain in frames, etc., till potting or planting time. Protect from frost. *Water* moderately in autn. & winter, freely in sum.

Calendula (Cape Marigold, Mary bud, Pot Marigold, Goldins).—*Ord.* Compositæ. Hardy annuals. *Nat.* Europe, S. Africa. *Int.* 1726. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, orange, single & double; June to Sept. *Soil*, ordinary. *Position*, sunny or shady. *Propagate* by seeds sown ⅛ in. deep outdoors in Mar. or Ap. where plants are to flower.

Calf's Snout (*Antirrhinum orontium*)—see Antirrhinum.

Calico Bush (*Kalmia latifolia*)—see Kalmia.

Californian Alder (*Alnus rhombifolia*)—see Alnus.

Californian Blue Oak (*Quercus Douglasi*)—see Quercus.

Californian Box Elder (*Negundo californicum*)—see Negundo.

Californian Buck Eye (*Pavia californica*)—see Pavia.

Californian Cedar (*Thuia gigantea*)—see Thuia.

Californian Chain Fern (*Woodwardia radicans*)—see Woodwardia.

Californian Columbine (*Aquilegia californica*)—see Aquilegia.

Californian Cone-flower (*Rudbeckia californica*)—see Rudbeckia.

Californian Elder (*Sambucus glauca*)—see Sambucus.

Californian Evergreen Red-wood-tree (*Sequoia sempervirens*)—see Sequoia.

Californian Fuchsia (*Zauschneria californica*)—see Zauschneria.

Californian Giant Pine-tree (*Pinus Lambertiana*)—see Pinus.

Californian Hyacinth (*Brodiæa congesta*)—see Brodiæa.

Californian Lace Fern (*Cheilanthes gracillima*)—see Cheilanthes.

Californian Lilac (*Ceanothus integerrimus* & *C. thyrsiflorus*) — see Ceanothus.

Californian Lily (*Lilium californica*)—see Lilium.

Californian Orange Poppy (*Eschscholtzia californica crocea*)—see Eschscholtzia.

Californian Pink Poppy (*Eschscholtzia californica rosea*) — see Eschscholtzia.

Californian Pitcher-plant (*Darlingtonia californica*)—see Darlingtonia.

Californian Plane-tree (*Platanus racemosa*)—see Platanus.

Californian Poppy (*Platystemon californicus* & *Eschscholtzia californica*)—see Platystemon & Eschscholtzia.

Californian Prairie Grass (*Ceratochloa unioloides*)—see Addenda

Californian Red Alder (*Alnus rubra*)—see Alnus.

Californian Red-wood-tree (*Ceanothus spinosus*)—see Ceanothus.

Californian Rhododendron (*Rhododendron californicum*) — see Rhododendron.

Californian Silver Fir (*Picea concolor*)—see Picea.

Californian White Poppy (*Eschscholtzia californica alba*) — see Eschscholtzia.

Caliphruria.—*Ord.* Amaryllidaceæ. Greenhouse plant. Bulbous-rooted. *Nat.* Columbia. *Int.* 1876. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, white; Nov. to Feb. *Compost*, two parts sandy loam, one part leaf-mould, peat & sand. *Position*, well drained pots, sunny. *Pot*, Mar., placing one bulb 3 in. deep in a 5 in. pot. *Water* moderately Mar. to Oct., very little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by offsets placed in small pots in Mar.

Calla (Bog Arum, Water Dragon).—*Ord.* Aroideæ Hardy floating aquatic. *Nat.* Europe, N. America. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white; sum. *Soil*, rich, boggy or muddy. *Position*, moist bog or shallow pond. *Plant*, Mar. or Ap. *Propagate* by inserting portions of stems in boggy or muddy soil where plants are required to grow.

Calla Lily (*Richardia æthiopica*)—see Richardia.

Callicarpa (French Mulberry, Purple Mulberry).—*Ord.* Verbenaceæ. Stove plant. Orn. fruit. *Nat.* India. *Int.* 1822. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Berries*, deep violet, borne abundantly in axils of leaves; Nov. to May. *Compost*, equal parts peat & loam, with little sand. *Position*, pots, sunny. *Pot*, Mar. *Prune* straggly shoots into shape before potting. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of young shoots inserted in 2 in. pots of sandy soil in Mar. in temp. 80°. To ensure plenty of berries, keep the points of shoots frequently pinched off & all flowers removed until the end of July.

Callichroa.—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1836. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, yellow; Aug. to Nov. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown ⅛ in. deep where plants are to flower.

Calliprora (Pretty Face).—*Ord.* Liliaceæ. Hardy bulbous perennial. *Nat.* N. California. *Int.* 1831. *Ht.* 9 in. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Soil*, rich sandy. *Position*, sunny, well drained rockery. *Plant* bulbs 4 in. deep & 3 in. apart in Sept. & Oct. *Lift* & replant bulbs annually. *Propagate* by offsets treated as bulbs.

Callirhoe (Crimson Poppy-Mallow, Finger-leaved Poppy Mallow, Long-stalked Poppy-Mallow, Purple Poppy-Mallow). — *Ord.* Malvaceæ. Hardy annuals & perennials. *Nat.* N. America. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 4 perennials, 1 annual. *Flowers*, purple, crimson, red, violet; June to Aug. *Soil*, ordinary. *Position*, open borders. *Plant* perennials Oct. or Mar. *Propagate* annual species by seeds sown 1/16 in. deep in pans of light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May, or where plants are to flower in Ap.; perennials by seeds sown 1/16 in. deep outdoors in Ap. or cuttings of young shoots inserted in sandy soil in cold frame in spring.

Callistephus (China Aster).—*Ord.* Compositæ. Hardy annual. *Nat.* China. *Int.* 1731. *Ht.* 6 in. to 2 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, purple, white, red, crimson, blue; July to Nov. *Soil*, rich, liberally manured. *Position*, open, sunny, well drained. *Outdoor culture:* Sow seeds ⅛ in. deep in light soil in temp. 55° to 65° in Mar., transplant seedlings in Ap. 2 in. apart in shallow boxes or in bed of light soil in cold frame, plant out 6 to 12 in. apart in outdoor beds in May; or sow seeds same depth & soil in cold frame, or in pots in window in Ap. & plant outdoors in May. Apply weak liquid manure twice a week during July & Aug. To secure exhibition blooms pinch off all flower buds except three or four on each plant directly they form. *Pot culture:* Sow seeds as advised above. *Transplant* three seedlings into a 3 in. pot in Ap., into 5 in. in May & 6 in. in June. *Compost*, equal parts loam, leaf-mould, decayed manure & sand. *Water* freely & apply liquid manure once a week when flower buds are formed. Thin out latter to three on each plant. Plants may be lifted from open ground in Aug. & placed in pots to flower if desired.

Calluna (Common Ling, Heather).—*Ord.* Ericaceæ. Hardy shrub. Evergreen. *Nat.* N. & C. Europe, Britain. *Ht.* 1 to 3 ft. *Species* cultivated, 1; variety, 1. *Flowers*, rose, white; July to Sept. *Soil*, bog or peat. *Position*, moist, open. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by division of plant in Oct. or Ap.

Calochortus (Butterfly Tulip, Butterfly-weed, Wild Tulip, Mariposa Lily).—*Ord.* Liliaceæ. Half-hardy bulbous plants. *Nat.* California. *Int* 1826. *Ht.* 3 to 18 in. *Species* cultivated, 12. *Flowers*, white, yellow, lilac, purple, crimson; June to Aug. *Frame culture:* Prepare bed 12 in. deep with compost of equal parts loam, peat, leaf-mould & sand. *Plant* bulbs 3 in. deep & 4 in. apart in Nov. Keep lights on in frosty weather; off night & day in fair weather. *Water* in dry weather. *Lift* & replant every three years. *Pot culture:* Use same compost as advised for frame culture. *Place* a dozen bulbs 2 in. deep in a 5-in. pot in Nov. Cover pots with ashes in cold frame & give no water. Remove pots from ashes in Jan. & place in cool greenhouse near glass. *Water* moderately till after flowering, then gradually withhold it. *Repot* annually in Nov. *Outdoor culture:* *Plant* bulbs in similar soil & manner to that advised for frames. Bed must be dry in winter, sunny, at foot of south wall. *Propagate* by seeds sown ⅛ in. deep in pans of sandy soil in temp. 45° to 55° in Mar., transplanting seedlings following year into small pots & treating similar to old bulbs; by offsets planted like bulbs in Nov.

Calodendron (Cape Chestnut).—*Ord.* Rutaceæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 4 to 40 ft. *Species* cultivated, 1. *Flowers*, rose; sum. *Compost*, two parts loam, one part peat & sand. *Position*, pots or tubs, sunny. *Pot & prune*, Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots 3 in. long inserted in sandy soil under bell-glass in temp. 60° in June or July.

Calophaca (Wing-leaved Calophaca). — *Ord.* Leguminosæ. Hardy shrubs. Deciduous. *Nat.* Siberia. *Int.* 1786. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Soil*, ordinary. *Position*, open shrubbery. *Plant*, Oct. to Feb. *Propagate* by seeds sown ½ in. deep in Nov. or Mar.; by grafting on common laburnum in Mar.

Calopogon (Grass Pink Orchis).—*Ord.* Orchidaceæ. Hardy herbaceous orchid. *Nat.* N. America *Int.* 1791. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, pale yellow; Aug. to Oct. *Soil*, peaty. *Position*, moist, open on rockery. *Plant*, Mar. or Ap. *Propagate* by offsets treated as old plants.

Calostemma.—*Ord.* Amaryllidaceæ. Greenhouse flowering plant. Bulbous. Deciduous. *Nat.* New Holland. *Int.* 1819. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, purple; Sept. to Dec. *Compost*, two parts loam, one part peat & sand. *Pot*, Aug. *Position*, sunny greenhouse. *Water* freely Mar. to July, moderately July to Sept., very little afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by offsets at potting time.

Caltha (Marsh Marigold, Gold, Goldings, Water Gowan, Double Marsh Marigold).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Britain, S. Europe, N. America. *Int.* (foreign species) 1815. *Ht.* 3 in. to 12 in. *Species* cultivated, 3. *Flowers*, white, yellow; Ap. to June. *Soil*, rich. *Position*, marshy, or banks of ponds. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or July.

Calvary Clover (*Medicago echinus*)—see Medicago.

Calycanthus (Carolina All-spice). — *Ord.* Calycanthaceæ. Hardy shrubs. Deciduous. *Nat.* Carolina, Pennsylvania. *Ht.* 3 to 12 ft. *Species* cultivated, 4. *Flowers*, purple, fragrant; Ap. to June. *Compost*, two parts peat, one part loam & leaf-mould. *Position*, south or west walls, or sheltered shrubbery South of England. *Plant*, Oct. to Mar. *Propagate* by seeds sown ¼ in. deep in light soil in cold frame, Mar.; by layers of shoots in July & Aug.

Calypso (Calypso Orchis). — *Ord.* Orchidaceæ. Hardy terrestrial orchid. *Nat.* N. America. *Int.* 1820. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, rose-brown; June to Aug. *Compost*, two parts leaf-mould, one part fibry peat & coarse sand. *Position*, shady, margins of rockwork or bog. *Plant*, Oct. or Mar. *Propagate* by offsets treated as old plants at planting time.

Calystegia (Double Chinese Bindweed, Dahurian Bindweed).—*Ord.* Convolvulaceæ. Hardy herbaceous trailing & climbing perennials. *Nat.* Dahuria, China, Britain, N. America. *Int.* (foreign species) 1826. *Ht.* 3 to 10 ft. *Flowers*, rose, purple, white, red; July to Sept. *Soil*, ordinary. *Position*, sunny. *Plant*, Oct. to Mar. *Propagate* by seeds sown ¼ in. deep in pots of sandy soil in temp. 55° in Mar., or similar depth in Ap. where plants are to flower; by division of roots in Oct. or Mar.

Camassia (Bear's Grass, Wild Hyacinth, Californian Quamash).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* California, N. America. *Int.* 1837. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, blue, creamy white; June to Sept. *Compost*, equal parts loam, leaf-mould & coarse sand. *Position*, sheltered beds or borders. *Plant* bulbs 4 in. deep & 4 in. apart in Oct. or Feb. *Top-dress* annually with decayed manure. *Lift* & replant every four years. *Propagate* by seeds sown ¼ in. deep in sunny position outdoors in Mar., or ⅛ in. deep in boxes of light soil in temp. 55° in Nov.; by offsets in Oct. or Feb.

Cambie Leaf (*Nymphea alba* & *Nuphar lutea*) — see Nymphea & Nuphar.

Cambi Resin-plant (*Gardenia lucida*)—see Gardenia.

Camellia (Japan Rose, Tea-plant).—*Ord.* Ternstræmiaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Japan, China. *Int.* 1739. *Ht.* 3 to 10 ft. *Species* cultivated, 4; varieties numerous. *Flowers*, various; Nov. to May. *Compost*, equal parts turfy loam, peat & sand. *Position*, pots or tubs in greenhouse, against south wall, or in sheltered shrubberies outdoors in S. of England. *Pot*, Mar. or Ap. *Plant* outdoors Oct. or Mar. *Water* moderately Sept. to Mar., freely afterwards. *Prune* at potting time. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Place* plants outdoors on bed of cinder ashes July to Sept. *Apply* stimulants once a week Aug. to Mar. *Suitable stimulants:* Solution of sheep droppings & soot, clear soot water, guano & water, or artificial manures. *Cause of buds dropping*, dry atmosphere & insufficient water at roots. *Propagate* by seeds sown ⅛ in. deep in sandy peat in temp. 75° in Mar.; by cuttings of firm shoots inserted in well drained pots of sandy peat in cool greenhouse in Aug., transferring pots in Mar. to temp. 55° & putting cuttings in small pots following Sept.; by layers of shoots in Sept.; grafting in Mar.

Camel's Thorn (*Hedysarum Alhagi*)—see Hedysarum.

Camomile (*Anthemis nobilis*)—see Anthemis.

Campanula (Bellflower, Harebell, Dane's Blood, Steeple-bell, Canterbury-bell, Lady's Thimble, Withes-bell, Lady's Looking-glass, Venus' Looking-glass, Garden Rampion, Corn Violet, Coventry-bells).—*Ord.* Campanulaceæ. Hardy biennials & perennials. *Nat.* Europe, N. America, Italy, Island of Samos, Britain, China, Greece, Azores, Mount Lebanon. *Int.* (foreign species) 1596. *Ht.* 3 in. to 4 ft. *Species* cultivated, 45. *Flowers*, blue, white, violet, rose; May to Sept. *Soil*, ordinary, rich. *Position*, trailing species on sunny rockeries; tall species beds & borders, sunny or shady. *Plant*, Oct. to Ap. *Pot culture: Compost*, equal parts leaf-mould, loam & sand. Trailing kinds grow in small pots in hanging baskets. *Repot* them in Mar. *Water* moderately in winter, freely other times. Tall kinds grow singly in 5-in. pots or three in a 7-in. pot. Sow seeds of these in cold frame in Aug.; transplant seedlings singly in 3-in. pots in Oct., into 5-in. in Ap., 7-in. in May. *Water* moderately in winter, freely in sum. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in temp. 55° in Mar. or Aug.; by cuttings of young shoots in light soil in cold frame in Aug. or Mar.; division of roots in Oct. or Ap.

Campbell's Magnolia (*Magnolia Campbelli*)—see Magnolia.

Camperdown Weeping Elm (*Ulmus montana var. pendula*)—see Ulmus.

Campernelle (*Narcissus odorus*)—see Narcissus.

Campion (*Lychnis diurna*)—see Lychnis.

Canada Balsam-tree (*Pinus balsamea & P. Fraseri*)—see Pinus.

Canada Blue-berry (*Vaccinium myrtillus*)—see Vaccinium.

Canadan Bush Clover (*Hedysarum canadense*)—see Hedysarum

Canadan Columbine (*quilegia canadensis*)—see Aquilegia.

Canadan Flea-bane (*Erigeron canadensis*)—see Erigeron.

Canadan Golden Rod (*Solidago canadensis*)—see Solidago.

Canadan Honeysuckle (*Lonicera canadensis*)—see Lonicera.

Canadan Lily (*Lilium canadensis*)—see Lilium.

Canadan St. John's-wort (*Hypericum canadense*) — see Hypericum.

Canadian Yew-tree (*Taxus canadensis*)—see Taxus.

Canarina (Canary Island Bellflower).—*Ord.* Campanulaceæ. Greenhouse herbaceous perennial. *Nat.* Canary Islands. *Int.* 1696. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow, purple, orange; Jan. to Mar. *Compost*, equal parts loam, leaf-mould, decayed manure & silver sand. *Position*, pots. *Pot*, Feb.; good drainage very essential. *Water* liberally Mar. to Aug., moderately Aug. to Nov., very little afterwards. *Temp.*, Sept. to Feb. 45° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 65° in Mar. or Ap.; division of roots in Feb.

Canary Bird Nasturtium (*Tropæolum aduncum*)—see Tropæolum.

Canary Creeper (*Tropæolum aduncum*)—see Tropæolum.

Canary Grass (*Phalaris canariensis*)—see Phalaris.

Canary Island Holly (*Ilex canariensis*)—see Ilex.

Canary Island Juniper (*Juniperus cedrus*)—see Juniperus.

Canary Island St. John's-wort (*Hypericum canariense*)—see Hypericum

Canary Seed Plant (*Phalaris canariensis*)—see Phalaris.

Cancer-wort (*Linaria spuria*)—see Linaria.

Candelabra-flower (*Brunsvigia Josephinæ*)—see Brunsvigia.

Candelabrum Bellflower (*Campanula macrostyla*)—see Campanula

Candle-berry Myrtle (*Myrica Gale*)—see Myrica.

Candlemas Bells (*Galanthus nivalis*)—see Galanthus.

Candle Plant (*Cacalia articulata*)—see Cacalia.

Candle-wick (*Verbascum Thapsus*)—see Verbascum.

Can Dock (*Nuphar lutea* & *Nymphæa alba*)—see Nuphar & Nymphæ

Candy Mustard (*Æthionema saxatile*)—see Æthionema.

Candytuft (*Iberis amara*)—see Iberis.

Cane Apple (*Arbutus unedo*)—see Arbutus.

Canistrum.—*Ord.* Bromeliaceæ. Stove flowering plants. *Nat.* Brazil. *Int.* 1873. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, white, green; May to Sept. *Compost*, equal parts fibry loam, rough peat & silver sand; good drainage essential. *Pot*, Mar. *Water* freely always. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 70° to 80°. *Propagate* by offshoots inserted in small pots in temp. 85° in Ap.

Canker Rose (*Papaver Rhœas*)—see Papaver.

Canker-weed (*Senecio Jacobæa*)—see Senecio.

Canna (Indian Shot-plant).—*Ord.* Scitamiaceæ. Stove herbaceous plants. *Nat.* S. America, W. Indies, Costa Rica, Brazil, Peru. *Int.* 1570. *Ht.* 3 to 8 ft. *Species* cultivated, 22. *Flowers*, orange, purple, rose, red, scarlet; May to Sept. *Compost*, equal parts loam, decayed manure, leaf-mould & sand. *Position* pots in greenhouse, or sunny positions in beds outdoors in sum. *Pot*, Mar. *Water* freely Mar. to Oct., very little afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 65° to 85°. *Outdoor culture:* Place roots in pots in Mar. in temp. 55° to 60°. Remove pots into temp. 50° to 55° end of Ap. & plant outdoors early in June. Lift roots in Sept., place them in boxes filled with ordinary soil, keep latter nearly dry, & store in frost-proof position till potting time. *Propagate* by seeds steeped for 24 hours in tepid water, then sown ½ in. deep in light soil in temp. 85° in Feb.; division of roots at potting time.

Cannabis (Hemp-plant).—*Ord.* Urticaceæ. Hardy annuals. Orn. foliage. *Nat.* India, China. *Int.*, date unknown. *Ht.* 4 to 10 ft. *Flowers*, green; June. *Soil*, ordinary. *Position*, sunny borders. *Propagate* by seeds sown ⅛ in. deep outdoors, where plants are to grow, in Ap., or in temp. 55° in Mar., transplanting seedlings in June.

Canoe Wood (*Liriodendron tulipferum*)—see Liriodendron.

Canopy Plane-tree (*Platanus acerifolia umbellata*)—see Platanus.

Canterbury Bells (*Campanula medium*)—see Campanula.

Canterbury Seedling Elm (*Ulmus glabra var. major*)—see Ulmus.

Cantua (Peruvian Magic-tree).—*Ord.* Polemoniaceæ. Greenhouse shrubs. Evergreen. *Nat.* Peru. *Int.* 1846. *Ht.* 3 to 4 ft. *Species* cultivated, 3. *Flowers*, red, yellow, scarlet; Mar. to May. *Compost*, two parts turfy loam, one part leaf-mould & sand. *Position*, pots, sunny greenhouse. *Pot*, Mar. *Water* moderately Sept. to Mar., freely Mar. to Sept. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of shoots inserted in pure silver sand under bell-glasses in temp. 50° to 55°, May to Aug.

Cape Alkanet (*Anchusa capensis*)—see Anchusa.

Cape Aloe (*Aloe ferox*)—see Aloe.

Cape Asparagus (*Aponogeton distachyon*)—see Aponogeton.

Cape Aster (*Agathæa amelloides*)—see Agathæa.

Cape Coast Lily (*Crinum spectabile*)—see Crinum.
Cape Cowslip (*Lachenalia tricolor*)—see Lachenalia.
Cape Crocus (*Gethyllis spiralis*)—see Gethyllis.
Cape Fig-wort (*Phygelius capensis*)—see Phygelius.
Cape Forget-me-not (*Anchusa capensis*)—see Anchusa.
Cape Gooseberry (*Physalis peruviana*)—see Physalis.
Cape Honeysuckle (*Tecoma capensis*)—see Tecoma.
Cape Jasmine (*Gardenia florida*)—see Gardenia.
Cape Lily (*Crinum capense*)—see Crinum
Cape Pond-weed (*Aponogeton distachyon*)—see Aponogeton.
Cape Primrose (*Streptocarpus biflorus*)—see Streptocarpus.
Cape Red Tulip (*Hœmanthus coccineus*)—see Hœmanthus.
Cape Treasure-flower (*Gazania pavonia*)—see Gazania.
Caper Bush (*Capparis spinosa*)—see Capparis.
Caper Spurge (*Euphorbia lathyris*)—see Euphorbia.
Capillaire (*Adiantum capillus-veneris*)—see Adiantum.

Capparis (Caper-tree).—*Ord.* Capparidaceæ. Greenhouse shrub; hardy S. of England. Evergreen. *Nat.* S. Europe. *Int.* 1596. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, white, red; May to July. *Compost*, two parts turfy loam, one part leaf-mould & sand. *Position*, pots in sunny greenhouse, or sheltered border outdoors. *Pot*, Mar.; good drainage essential. *Plant* outdoors Sept. to Nov. *Water* moderately in pots Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of firm shoots in sand under bell-glasses in temp. 65° to 75°, July or Aug.

Caprifole (*Lonicera caprifolium*)—see Lonicera.
Capsian Honey Locust-tree (*Gleditschia capsica*)—see Gleditschia.

Capsicum (Cayenne Pepper, Chilies, Red Pepper).—*Ord.* Solanaceæ. Tender annual bearing edible fruit. *Nat.* S. America. *Int.* 1548. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; June. *Fruit*, long, round, red & yellow. *Soil*, light, rich. *Position*, pots in sunny greenhouse, against south walls outdoors in sum. *Pot culture:* Sow seeds $\frac{1}{8}$ in. deep in temp. 80° in Feb. Place seedlings singly in 3-in. pots in Mar. & in 6-in. pots in May. Water freely & grow throughout in temp. 75° to 85°. Gather fruit when full red or yellow colour is attained. *Outdoor culture:* Sow seeds & grow seedlings in pots as advised in previous case. Plant out in June. Train shoots thinly to wall as they grow.

Captain Rawe's Camellia (*Camellia reticulata*)—see Camellia.

Caragana (Siberian Pea-tree, Chinese Pea-tree).—*Ord.* Leguminosæ. Hardy trees & Shrubs. Deciduous. *Nat.* Dahuria, Siberia, China. *Int.* 1751. *Ht.* 1 to 6 ft. *Species* cultivated, 4. *Flowers*, yellow, white, red; Ap. to July. *Soil*, ordinary. *Position*, open shrubbery. *Plant*, Oct. to Mar. *Propagate* by seeds sown 2 in. deep in ordinary soil outdoors in Nov. or Mar.; cuttings of roots inserted 3 in. deep outdoors in Oct.; layers of strong shoots in Sept.; grafting in Mar.

Caraway (*Carum Carvi*)—see Carum.
Caraway-leaved Heron's-bill (*Erodium carnifolium*) — see Erodium.

Cardamine (Bitter-cress, Cuckoo-flower).—*Ord.* Cruciferæ. Hardy perennial herbs. *Nat.* Britain, S. Europe, Siberia, America. *Int.* (foreign species) 1629. *Ht.* 4 in. to 2 ft. *Species* cultivated, 6. *Flowers*, white, purple; Mar. to June. *Soil*, ordinary. *Position*, moist, shady border. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors in Ap.; division of roots in Oct.

Cardinal-flowered Gladiole (*Gladiolus cardinalis*)—see Gladiolus.

Cardinal Flower (*Lobelia cardinalis* & *Cleome cardinalis*)—see Lobelia & Cleome.

Cardinal Monkey-flower (*Mimulus cardinalis*)—see Mimulus.

Cardoon (*Cynara cardunculus*)—see Cynara.

Carduus—formerly the generic name of the Blessed Thistle (*Cnicus benedicta*).

Carex (Blue-grass, Sedge, Spère grass)—*Ord.* Cyparaceæ. Hardy herbaceous perennial grasses. Orn. foliage. *Nat.* Britain, India, America, *Ht.* 2 to 4 ft. *Species* cultivated, 8. *Soil*, ordinary. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by seeds sown where plants are to grow in Mar.; division of roots in Mar.

Carinthian Saxifrage (*Saxifraga carinthiaca*)—see Saxifraga.

Carlina (Carline Thistle).—*Ord.* Compositæ. Hardy perennials. *Nat.* S. Europe. *Int.* 1640. *Ht.* 9 in. to 2 ft. *Species* cultivated, 2. *Flowers*, white; June. *Soil*, ordinary. *Position*, open dryish border. *Plant*, Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are required to grow.

Carludovica (Palmetto Palm, Panama Hat-tree).—*Ord.* Cyclanthaceæ. Stove plants. Orn. foliage. *Nat.* Costa Rica, New Grenada, Columbia, Peru. *Int.* 1818. *Ht.* 4 ft. *Species* cultivated, 6. *Leaves*, green, divided, palm-like. *Compost* two parts peat, one part sandy loam. *Position*, moist, shady. *Pot*, Mar *Water* moderately Nov. to Mar., freely afterwards. *Temp.*, Sept. tc Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by division of plant at potting time.

Carmine-rose Camellia (*Camellia imbricata*)—see Camellia.

Carnation (*Dianthus caryophyllus*)—see Dianthus.

Carnation Grass (*Carex glauca* & *C. panicea*) -see Carex.

Carnation Poppy (*Papaver somniferum*)—see Papaver.

Carniola Lily (*Lilium carniolicum*)—see Lilium.

Carniolic Primrose (*Primula carniolica*)—see Primula.

Carob Tree (*Ceratonia seliqua*)—see Ceratonia.

Carolina Allspice (*Calycanthus glaucus*)—see Calycanthus.

Carolina Cypress Vine (*Ipomæa caroliniana*)—see Ipomæa.

Carolina Maple (*Acer barbatum*)—see Acer.

Carolina Mock Orange (*Prunus caroliniana*)—see Prunus.

Carolina Poplar (*Populus monilifera*)—see Populus.

Carolina Windflower (*Anemone caroliniana*)—see Anemone.

Carpathian Balsam-tree (*Pinus cembra*)—see Pinus.

Carpathian Bell-flower (*Campanula carpatica*)—see Campanula.

Carpathian Everlasting (*Antennaria carpatica*)—see Antennaria.

Carpathian Snow-flake (*Leucojum carpaticum*)—see Leucojum.

Carpenteria (Californian Mock Orange).—*Ord.* Saxifrageæ. Hardy flowering shrub. Deciduous. *Nat.* California. *Int.* 1880. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white; June & July. *Soil*, light loamy. *Position*, sheltered position in shrubbery or against south wall. *Plant*, Oct. or Nov. *Prune* away shoots that have flowered directly blossoms fade. *Propagate* by cuttings of young shoots inserted in cold frame in Ap.; suckers removed from roots in autn.; layering shoots in Sept.

Carpenter's Herb (*Rivina humilis*)—see Rivina.

Carpet Plant (*Ionopsidium acaule*)—see Ionopsidium.

Carpinus (Horn-beam, Horn beech, Blue-beech, Water-beech.)—*Ord.* Cupaliferæ. Hardy deciduous trees. Orn. foliage. *Nat.* Britain, N. America. *Int.* (foreign species) 1812. *Ht.* 10 to 70 ft. *Species* cultivated, 2. *Flowers*, yellow; May. *Leaves*, green, golden, or silver. *Soil*, ordinary. *Position*, open, exposed. *Plant*, Oct. to Mar. Native species (*C. betula*) makes good hedge. Plant three-year old seedlings 3 ft. for this purpose & prune shoots in closely every autn. *Propagate* by seeds sown 1 in. deep in autn. in ordinary soil outdoors. Transplant seedlings when a year old 2 ft. apart each way.

Carrion Flower (*Stapelia hirsuta*)—see Stapelia.

Carrot-rooted Sunflower (*Helianthus strumosus*)—see Helianthus.

Carthaginian Apple (*Punica granatum*)—see Punica.

Carthamus (Saffron Thistle, Safflower).—*Ord.* Compositæ. Hardy annuals. *Nat.* Egypt, S. Europe. *Int.* 1551. *Ht.* 2 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; June. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 65° in Mar., transplanting seedlings where they are to flower in May.

Carum (Caraway).—*Ord.* Umbelliferæ. Hardy biennial. Seeds used largely in confectionery & perfumery. *Nat.* Europe, Britain. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, open, sunny. *Propagate* by seeds sown in drills 1 in. deep & 10 in. apart in Ap. Thin seedlings to 8 in. apart in June. Gather seeds following June or July.

Caryota (East Indian Wine Palm, Toddy Palm).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Malacca, Phillipine Islands, India. *Int.* 1788. *Ht.* 5 to 50 ft. *Species* cultivated, 4. *Compost*, equal parts loam, leaf-mould & coarse sand. *Position*, pots, moist, shady. *Pot*, Mar. *Water* freely Mar. to Nov., moderately afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 85°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° in Mar.; suckers removed from roots, inserted in small pots, any time.

Cashmere Larkspur (*Delphinium cashmerianum*)—see Delphinium.

Cashmere Primrose (*Primula cashmeriana*)—see Primula.

Casque-wort (*Galeandra Devoniana*)—see Galeandra.

Cassia (Senna-plant). — *Ord.* Leguminosæ. Greenhouse evergreen shrubs & hardy perennials. *Nat.* Buenos Ayres, W. Indies, C. & S. America, N. S. Wales. *Int.* 1723. *Ht.* 2 to 6 ft. *Species* cultivated, 3 greenhouse, 1 hardy perennial. *Flowers*, yellow; Ap. to Dec. *Compost*, two parts loam, one part peat & sand. *Position*, pots in greenhouse, or well drained border against south wall. *Pot*, Mar. *Plant* outdoors Ap. *Water* greenhouse species moderately Nov. to Feb., freely afterwards. *Prune* straggling shoots to within 2 in. of base in Dec. or Jan. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 75° in Mar.; cuttings of previous year's shoots inserted in sandy soil under bell-glass in temp. 80° in Mar.

Cassiope. — *Ord.* Ericaceæ. Hardy evergreen shrubs. *Nat.* N. America, Lapland. *Int.* 1798. *Ht.* 3 to 9 in. *Species* cultivated, 2. *Flowers*, white; Mar. to June. *Soil*, sandy peat. *Position*, moist, shady. *Plant*, Sept. to Ap. *Propagate* by layering shoots in autn.

Castanea (Chestnut).—*Ord.* Corylaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* Asia Minor, N. America. *Int.* 1699. *Ht.* 12 to 70 ft. *Species* cultivated, 2. *Flowers*, yellow; June. *Nuts* ripe in Oct. *Soil*, deep, rich, sandy. *Position*, open, sunny. *Plant*, Oct. to Feb. *Propagate* by sowing nuts 3 in. deep & 6 in. apart in open garden in Nov. or Feb. Transplant seedlings when a year old. *Distance apart to plant*, 25 ft. for avenues & 5 ft. apart for underwood.

Castor Bean (*Ricinus communis*)—see Ricinus.

Castor Oil-plant (*Ricinus communis*)—see Ricinus.

Castor Wood (*Magnolia glauca*)—see Magnolia.

Catalpa (Indian Bean, French Oak, St. Domingo Oak).—*Ord.* Bignoniaceæ. Hardy deciduous flowering trees. *Nat.* N. America, W. Indies. *Int.* 1726. *Species* cultivated, 4. *Flowers*, white, purple, yellow, fragrant, June & July. *Soil*, ordinary, good. *Position*, sunny, sheltered. *Plant*, Oct. to Ap. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 55° to 65° in sum.

Catalonian Jasmin (*Jasminum grandiflorum*)—see Jasminum.

Catananche (Blue Cupidone, Blue Succory). —*Ord.* Compositæ. Hardy perennial. *Nat.* S. Europe. *Int.* 1596. *Ht.* 2 to 3 ft *Species* cultivated, 1. *Flowers*, blue, white, Aug. *Soil*, ordinary. *Position*, warm borders. *Plant*, Ap. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 55° in Mar., transplanting seedlings outdoors in June.

Catasetum.—*Ord.* Orchidaceæ. Stove deciduous orchids. *Nat.* Brazil, Demerara, Trop. America. *Int.* 1822. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, white, yellow, purple, brown; May to Sept. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off, very little other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant at potting time.

Catawba Rhododendron (*Rhododendron Catawbiense*)—see Rhododendron.

Cat Berries (*Ribes grossularia*)—see Ribes.

Cat Briar (*Smilax aspera*)—see Smilax.

Catch-fly (*Silene pendula* & *Lychnis dioica*)—see Silene & Lychnis.

Cat Chop (*Mesembryanthemum felinum*)—see Mesembryanthemum.

Catesby's Rhododendron (*Rhododendron Catesbæi*)—see Rhododendron.

Catha (Abyssinian Tea-plant).—*Ord.* Celastraceæ. Greenhouse shrub. Evergreen. *Nat.* Arabia. *Int.*, date unknown. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white; sum. *Leaves* eaten by Arabs as substitute for opium. *Compost*, equal parts peat, loam & sand. *Pot*, Mar. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots inserted in sandy peat under bell-glass in temp. 75° in sum.

Cathcartia (Cathcart's Poppy).—*Ord.* Papaveraceæ. Hardy herbaceous biennial. *Nat.* Sikkim, Himalayas. *Int.* 1850. *Ht.* 10 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; June. *Soil*, ordinary, dryish. *Position*, sunny, well drained rockery. *Propagate* by seeds sown ⅛ in. deep in sandy soil in cold frame in July, transplanting seedlings into small pots in Aug., keeping them in cold frame till planting time.

Cat-o'-nine-tails (*Typha latifolia*)—see Typha.

Cat Tree (*Euonymus europæus*)—see Euonymus.

Cat Whin (*Genista angelica*, *Rosa canina*, *R. spinosissima*, & *Ulex nanus*)—see Genista, Rosa, & Ulex.

Cat's Ear (*Antennaria tomentosa* & *Gnaphalium dioicum*)—see Antennaria & Gnaphalium.

Cat's Valerian (*Valeriana officinalis*)—see Valeriana.

Cattleya.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* Brazil, Guatemala, Trop. America, New Grenada. *Int.* 1815. *Ht.* 9 in. to 2 ft. *Species* cultivated, about 100; hybrids & varieties numerous. *Flowers*, purple, violet, rose, crimson, yellow, buff, white; all the year round. *Compost*, two parts coarse fibry peat, one part chopped living sphagnum moss, charcoal & sand. *Position*, well drained pots, hanging baskets, blocks. *Pot*, Feb. or Mar Keep plants well above rim of pot. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. Syringe freely in sum. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Caucasian Catch-fly (*Silene caucasica*)—see Silene.

Caucasian Comfrey (*Symphytum caucasicum*)—see Symphytum.

Caucasian Iris (*Iris caucasica*)—see Iris.

Caucasian Lily (*Lilium monadelphum*)—see Lilium.

Caucasian Primrose (*Primula amœna*)—see Primula.

Caucasian Scarlet Poppy (*Papaver umbrosum*)—see Papaver.

Caucasian Walnut-tree (*Juglans pterocarpa*)—see Juglans.

Cauliflower (*Brassica oleracea var. Botrytis cauliflora*)—see Brassica.

Caulophyllum (Pappose-root, Squaw-root). — *Ord.* Berberidaceæ. Hardy tuberous-rooted perennial. *Nat.* N. America. *Int.* 1755. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, yellow; Ap. *Berries*, blue; autn. *Soil*, ordinary. *Position*, shady. *Plant*, Nov. *Propagate* by division of roots Mar. or Nov.

Cayenne Pepper (*Capsicum annuum* & *C. fastigiatum*)—see Capsicum.

Ceanothus (Blue Bush, Blue-flowered Redwort, Californian Lilac, New Jersey Tea-plant, Wild Snowball-tree).—*Ord.* Rhamnaceæ. Hardy & half-hardy flowering shrubs. *Nat.* N. America, California, Mexico. *Int.* 1713. *Ht.* 1 to 6 ft. *Species* cultivated, 8. *Flowers*, blue, white; May to July. *Soil*, light, ordinary. *Position*, against south or west walls or fences outdoors; in pots in cool greenhouse. *Plant*, Oct. to Mar. *Pot*, Oct. *Prune* weak shoots away entirely in Mar. *Water* moderately in pots in winter, freely in sum. *Propagate* by cuttings 3 in. long inserted in pots of sandy soil in cold frame, cool greenhouse, or window in Oct.; layering strong shoots in Sept., Oct., & Nov.

Cedronella (Common Balm of Gilead, Heart leaved Balm of Gilead). —*Ord.* Labiatæ. Hardy herbaceous perennials & half-hardy shrubs. *Nat.* Canary Islands, United States. *Int.* 1697. *Ht.* 4 in. to 3 ft. *Species* cultivated, 2. *Flowers*, purple, white; May to July. *Leaves*, fragrant. *Hardy species: Soil*, light, rich. *Position*, sunny border or rockery, dryish. *Plant*, Oct. to Ap. *Half-hardy species: Compost*, two parts sandy loam, one part leaf mould & sand. *Pot*, Mar. *Position*, pots in sunny greenhouse. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Water* moderately in autn. & winter, freely other times. *Propagate* hardy species by division of roots in Mar.; half-hardy species by cuttings of young shoots inserted in pots of sandy soil in temp. 75° in Mar., Ap., or May.

Cedrus (African, Mount Atlas, & Silver Cedar, Cedar of Lebanon, Deodar, East Indian Cedar, Fountain-tree).—*Ord.* Coniferæ. Hardy evergreen trees. Orn. foliage. *Nat.* Algeria, Himalayas, Mount Lebanon. *Int.* 1676. *Ht.* 50 to 200 ft. *Species* cultivated, 3; varieties several. Wood of Cedar of Lebanon used in ancient times as incense. Oldest cedar in England at Brethby Park, Derbyshire; planted in 1676. Cones not produced by *Cedrus Libani* until tree is 40 to 100 years old. *Soil*, rich, deep, sandy. *Position*, well drained, elevated away from sea coast. *Plant*, Sept. to Nov., or Mar. to May. *Propagate* by seeds sown ½ in. deep in well drained pans of light soil in cold frame in Ap., transplanting seedlings outdoors following spring.

Celastrus (Staff-tree, Climbing Bitter-sweet, Staff-vine, Wax-work). —*Ord.* Celastraceæ. Greenhouse evergreen & hardy deciduous climbing shrubs. *Nat.* Cape of Good Hope, N. America. *Int.* 1722. *Ht.* 1 to 10 ft. *Species* cultivated, 2. *Flowers*, white, yellow; Ap. to Sept. *Greenhouse species: Compost*, equal parts peat, loam & sand. *Pot*, Mar. *Position*, sunny greenhouse. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Hardy species: Soil*, ordinary. *Position*, walls, fences, & arbours. *Plant*, Oct. to Mar. *Prune* away weak shoots & tips of main shoots in Feb. *Propagate* by layers of young shoots in Sept., Oct., & Nov.

Celeriac (*Apium graveolens rapaceum*)—see Apium.

Celery (*Apium graveolens*). — *Ord.* Umbelliferæ. Hardy esculent vegetable. Biennial. *Nat.* Britain. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, white; July. Blanched leaf-stalks used as salad; leaves & roots for flavouring soups. *Culture: Soil*, ordinary, well enriched with cow, pig, or horse manure. *Position*, moist, in trenches running north & south, 4 ft. apart, 15 in.

wide, & 9 in. deep for single rows, or 18 in. wide for double rows. *Put* 3 in. manure in bottom & 2 in. top soil on this. *Plant* out first week in June for early crop; end of June for main crop. *Distance apart* for plants, 8 in. for single row; 9 in. apart in row & 6 in. between rows for double rows. *Earth up* gradually from Sept to Nov. in fine weather only. *Sow seeds* $\frac{1}{10}$ in. deep in light soil in temp. 65° to 75° in Feb. & Mar. for early crop; in Mar. in similar temp. for main crop, or in cold frame in Ap. *Seedlings* in first two cases to be transplanted 2 in. apart in light soil in boxes, kept in temp. 55° to 65° for few weeks, then planted 6 in. apart in shady bed outdoors till required for planting in trenches. *Water* liberally until earthed up to ensure crisp, solid hearts. *Liquid manure* apply once a week from planting till earthing up. *Guano* at rate of 1 oz. to gallon of water most suitable stimulant. *Plants* for seed bearing not to be earthed up; protect them in severe weather; transplant following spring; gather seed in Sept. *Turnip-rooted Celery: Soil*, rich, light. *Position*, sunny level border. *Plant* in June 1 ft. apart in rows 18 in. asunder. *Keep* all side shoots removed. *Draw* little mould around base of each in Aug. *Water* freely in dry weather. *Lift* roots in Oct. & store them in sand in shed till required for use. *Sow* & treat seedlings as advised for ordinary celery.

Celestial Rose (*Rosa alba*)—see Rosa.

Celosia (Cockscomb).—*Ord.* Amarantaceæ. Greenhouse annuals. *Nat.* Asia, Java. *Int.* 1570. *Ht.* 6 in. to 2 ft. *Species* cultivated, 3; varieties numerous. *Flowers*, red, scarlet, white, orange; June to Nov. *Celosia: Compost*, two parts fibry loam, one part leaf-mould & well decayed cow manure & sand. *Position*, warm greenhouse, exposed to light. *Sow* seeds $\frac{1}{16}$ in. deep in well drained pans of light soil in temp. 75° in Mar. *Transplant* seedlings 1 in. apart when 1 in. high in light soil in well drained pots & keep in temp. 60° to 75°. When seedlings have formed four leaves place them singly in 3-in. pots, transferring them in June to 5-in. pots. *Keep* plants near the glass. *Water* roots moderately. *Syringe* foliage twice daily. *Liquid manure* apply when flowers appear. *Sum. temp.*, 55° to 65°. *Cockscombs: Sow* seeds as advised for Celosias. When seedlings appear place them close to glass & keep moderately moist. *Transplant*, when seedlings have formed three leaves, into 2 in. pots in above compost. *Place* pots on shelf near glass until "combs" show themselves. *Select* plants with finest "combs" & place them in 4-in. pots; plunge these to rim on gentle hotbed (temp. 65° to 75°) & keep moderately moist at root. *Syringe* freely. *Transfer* plants when pots are full of roots into 5-in. pots & treat as before. *Give* liquid manure when "combs" are well advanced. Good specimen of "comb" should measure 9 to 12 in. long, 3 to 6 in. wide, & plant 6 to 9 in. high.

Celsia (Cretan Mullein).—*Ord.* Scrophulariaceæ. Half-hardy shrubs & hardy biennials. *Nat.* Candia, Crete. *Int.* 1752. *Ht.* 3 to 6 ft. *Species* cultivated, 2. *Flowers*, yellow; July to Sept. *Half-hardy species: Compost*, equal parts loam, leaf-mould & sand. *Position*, pots in unheated greenhouse or against south walls in S. of England. *Pot* or plant, Mar. *Water* moderately in winter, freely other times. *Hardy species: Soil*, ordinary. *Position*, sunny border. *Plant*, Mar. or Ap. *Propagate* half-hardy species by cuttings, 3 in. long, of young shoots, inserted in well drained pots of sandy soil in cold frame or greenhouse in Ap., May, or June, or by seeds sown $\frac{1}{10}$ in. deep in light sandy soil in similar position; hardy species by seed sown $\frac{1}{16}$ in. deep in sunny place outdoors in Ap. or Aug.

Centaurea (Babylonian Centaury, Blue Cornflower, Bluebottle, Mealy Centaury, Purple, Red & Yellow Sweet Sultan, Mountain Centaury).—*Ord.* Compositæ. Hardy & half-hardy annuals & perennials. *Nat.* N. America, S. Europe, Caucasus, Britain, Persia, Candia, Cashmere, Levant. *Int.* (foreign species) 1596. *Ht.* 1 to 3 ft. *Species* cultivated, 12. *Flowers*, blue, yellow, purple, red, rose, white; July to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant* perennial kinds Oct. to Ap. *Variegated* species sow in pots in greenhouse in winter & plant out in sum. *Propagate*

Sweet Sultans & Cornflowers by seeds sown $\frac{1}{8}$ in. deep where plants are to flower in Ap.; variegated kinds by cuttings of side shoots inserted in 2-in. pots of sandy soil in Sept., plunging pots to rim in cold frame, shading cuttings from sun, & watering moderately; perennials by division in Mar.; tender annuals, biennials, & perennials by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 65° in Mar.; hardy perennials, sown $\frac{1}{8}$ in. deep outdoors in Ap., transplanting seedlings in June.

Centradenia.—*Ord.* Melastomaceæ. Stove flowering shrubs. Evergreen. *Nat.* Mexico. *Int.* 1840. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, pink; Sept. to Nov. *Compost*, two parts peat, one part loam & sand. *Position*, sunny. *Pot*, Feb. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Water* moderately Sept. to Mar., freely afterwards. *Propagate* by cuttings of side shoots 2 or 3 in. long inserted in pots of sandy peat under bell-glass in temp. 85° in Feb. & Mar.

Centranthus (Fox's-brush, Red Valerian, Spur Valerian, German Lilac).—*Ord.* Valerianaceæ. Hardy herbaceous perennials. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1683. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, red, rosy, carmine, white; May to Sept. *Soil*, ordinary. *Position*, old walls, sunny rockeries, borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light soil in temp. 55° in Mar., transplanting seedlings outdoors in May; or in sunny positions outdoors in Ap. or June, transplanting seedlings in May or Aug.

Centropogon. — *Ord.* Campanulaceæ. Stove herbaceous perennial. *Nat.* Trop. America. *Int.* 1786. *Ht.* 2 ft. *Species* cultivated, 1; hybrid, 1. *Flowers*, rose; Oct. to Mar. *Compost*, equal parts loam, peat, leaf-mould & a little sand. *Pot*, Mar. *Position*, stove Sept. to June; June to Sept. sunny frame outdoors. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to June 60° to 75°. *Water* moderately Sept. to Feb., freely afterwards. *Prune* shoots close to soil in Feb. when repotting. *Propagate* by cuttings of young shoots 3 in. long, removed with a portion of stem attached, & inserted in light sandy soil in well drained pots under bell-glass in temp. 60° to 70°.

Century Plant (*Agave americana*)—see Agave.

Cephalanthera (White Helleborine). — *Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* England. *Ht.* 6 to 24 in. *Species* cultivated, 3. *Flowers*, white, rose; May to July. *Soil*, chalky loam. *Position*, open & well drained border. *Plant*, Sept. & Oct. *Propagate* by division of roots in Sept.

Cephalanthus (Button bush, Globe-bush, Little Snow-balls, Snowy Globe-flowers).—*Ord.* Rubiaceæ. Hardy deciduous shrub. Orn. foliage. *Nat.* N. America. *Int.* 1735. *Ht.* 3 to 7 ft. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, sandy peat. *Position*, open shrubberies. *Plant*, Oct. or Nov. *Propagate* by layers of shoots in Sept. or Oct.

Cephalaria.—*Ord.* Dipsaceæ. Hardy herbaceous perennial. *Nat.* Siberia. *Int.* 1759. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Soil*, ordinary. *Position*, shrubbery borders or woods. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny position outdoors in Ap., transplanting seedlings in May.

Cephalotus (Australian Pitcher-plant).—*Ord.* Saxifragaceæ. Greenhouse herbaceous perennial. *Nat.* W. Australia. *Int.* 1822. *Species* cultivated, 1. *Ht.* 2 to 4 in. *Flowers*, white. *Pitchers*, 1 to 3 in. long, dark green, purple, & pink. *Compost*, equal parts sphagnum moss, fibry peat & silver sand. *Position*, pots or pans, well drained & covered with bell-glass; shady cool greenhouse or window. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Oct. 50° to 55°. *Water* moderately Sept. to Ap., freely afterwards. *Propagate* by division of roots in Mar.

Cephalotaxus (Cluster-flowered Yew). — *Ord.* Coniferæ. Hardy conifers. Orn. foliage. Evergreen. *Nat.* Japan, China. *Int.* 1837. *Ht.* 6 to 8 ft. *Species* cultivated, 3. *Leaves* similar to those of Yew. *Soil*, ordinary. *Position,* sheltered shrubberies or lawns. *Plant,* Sept. to Nov. or Mar. to May. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in cold frame in Sept. or Mar., transplanting seedlings outdoors a year after; cuttings of shoots 3 in. long inserted in sandy soil in shady cold frame, or under bell-glass or handlight outdoors.

Cerastium (Mouse-ear Chick-weed, Snow in Summer, Snow-plant, Jerusalem Star).—*Ord.* Caryophyllaceæ. Hardy perennials. Evergreen & deciduous. *Nat.* Britain, Tauria, E. Europe. *Int.* (foreign species) 1648. *Ht.* 2 to 6 in. *Species* cultivated, 4. *Flowers,* white; May to Aug. *Soil,* ordinary. *Position,* dryish borders, rockeries & edgings to flower beds. *Plant,* Mar. or Ap. *Propagate* by division of plants in Mar. or Ap.; cuttings of shoots 3 in. long inserted in ordinary soil in shady position outdoors in June or July; seeds sown $\frac{1}{10}$ in. deep in shady position outdoors in Ap., transplanting seedlings in June or July.

Cerasus (Cherry, Double Cherry, Choke Cherry, Common Laurel, Cherry Laurel, Portugal Laurel).—*Ord.* Rosaceæ. Hardy deciduous & evergreen trees & shrubs. *Nat.* England, Europe, Levant, N. America, Portugal, W. Indies, China, Jamaica. *Int.* (foreign species) 1597. *Ht.* 2 to 40 ft. *Species* cultivated, 20. *Flowers,* white; Ap. to June. *Fruit,* red, white, black; ripe June to Sept. *Common, Cherry, & Portugal Laurels: Soil,* ordinary. *Position,* sunny or shady shrubberies. *Plant,* Sept. to Nov., Mar. to May. *Prune* in Ap. *Flowering Cherries: Soil,* ordinary. *Position,* open shrubberies. *Plant,* Oct. to Feb. *Prune* away dead or weak shoots & shorten slightly vigorous ones in Jan. or Feb. *Double Cherry* useful for growing in pots for flowering in cold greenhouse in spring. *Pot* in ordinary good mould & plunge pot to rim outdoors from June to Feb., remainder of year keep in greenhouse. *Edible Cherry:* See Cherry. *Propagate* by sowing stones 6 in. deep outdoors as soon as fruit is ripe; cuttings of evergreens 6 in. long inserted in cold frame in Sept., of deciduous kinds, similar length, inserted in shady place outdoors in Oct., transplanting them following year; grafting on Wild Cherry in Mar.; budding on same stock in July.

Ceratiola (Sandhill Rosemary).—*Ord.* Empetraceæ. Half-hardy evergreen shrub. *Nat.* Carolina. *Int.* 1826. *Ht.* 1 to 2 ft. *Flowers,* brown; June to Aug. *Species* cultivated, 1. *Soil,* two parts sandy peat & loam. *Position,* moist, shady, sheltered. *Plant,* Ap. *Propagate* by cuttings of shoots 3 in. long inserted in well drained pots of sandy peat, under bell-glass, in cold frame in June, July, or Aug. *Protection* required in severe weather.

Ceratonia (Carob-bean, Locust-tree, St. John's Bread tree).—*Ord.* Leguminosæ. Hardy evergreen tree. *Nat.* S. Europe. *Int.* 1570. *Species* cultivated, 1. *Ht.* 30 to 50 ft. *Flowers,* red; Sept. *Soil,* ordinary. *Position,* against south walls; suitable for S. & W. of England only. *Plant,* Sept. to Nov. or Mar. to May. *Propagate* by seeds sown 1 in. deep in pots of sandy soil in temp. 85° in Mar., transplanting seedlings outdoors in June; cuttings of firm shoots 4 in. long inserted in sandy soil under bell-glass in cold frame or greenhouse in Aug. or Sept.

Ceratopteris (Floating Stag's-horn Fern, Pod Fern).—*Ord.* Filices. Stove water floating fern. Annual. *Nat.* Trop. America. *Int.,* date unknown. *Species* cultivated, 1. *Compost,* equal parts loam & leaf-mould. *Position,* in pots or pans submerged to rim in tank of water. *Temp.,* Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown in Feb. on surface of compost in pan in water as above; pegging old fronds to surface of soil from which young plants will grow.

Ceratozamia.—*Ord.* Cycadaceæ. Stove plants. Orn. foliage. *Nat.* Mexico. *Int.* 1879. *Ht.* 3 to 5 ft. *Leaves* finely divided, deep green. *Compost,* two parts loam, one part leaf-mould. *Pot,* Mar. *Position,* shady, moist. *Temp.,* Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Water* moderately in winter, freely other times; moist atmosphere essential. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° in spring; suckers or division of plant in Mar.

Cercis (American Judas-tree, Californian Judas-tree, Common Judas-tree, Love-tree, Red-bud).—*Ord.* Leguminosæ. Hardy trees. Deciduous. *Nat.* S. Europe, Canada, China. *Int.* 1596. *Ht.* 12 to 25 ft. *Species* cultivated, 3. *Flowers*, purple, pink, red; May & June. *Soil*, rich, deep, sandy. *Position*, warm sheltered shrubberies; N. of England against south wall. *Plant*, Oct. to Mar. *Prune* away old branches in Feb. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June, or by layers of strong shoots in Sept. or Oct.

Cereus (Torch Thistle, Night-flowering Cereus, Strawberry Pear).—*Ord.* Cactaceæ. Greenhouse plants with fleshy, spiny stems, no leaves. *Nat.* Brazil, Mexico, Peru, S. America. *Int.* 1690. *Ht.* 6 in. to 10 ft. *Species* cultivated, 15. *Flowers*, white, scarlet, orange, pink, red; Mar. to Aug. *Compost*, two parts fibry loam, one part coarse sand & pounded brick rubbish. *Position*, well drained pots in sunny greenhouses or windows. *Pot* every three or four years, in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept., 55° to 65°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kind in Ap.

Cerinthe (Honeywort, Wax-plant). — *Ord.* Boraginaceæ. Hardy annuals & perennial. *Nat.* S. & E. Europe, Greece. *Int.* 1570. *Ht.* 1 to 2 ft. *Species* cultivated, annuals 5, perennial 1. *Flowers*, yellow, purple, violet, brown; June to Sept. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant* perennial species Oct. or Ap. *Propagate* annuals by seeds sown $\frac{1}{16}$ in. deep in Ap. where plants are to flower, or in boxes of light sandy soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; thin outdoor-sown seedlings to 2 in. apart; perennials by seeds similar to annuals & by division of roots in Ap.

Cestrum (Bastard Jasmine, Night-blooming Jasmine). — *Ord.* Solanaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Chili, Mexico, Guatemala. *Int.* 1787. *Ht.* 5 to 10 ft *Species* cultivated, 6. *Flowers*, red, crimson, rose, purple, orange; Feb. to Aug. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots or beds with shoots trained on wall, pillars, or roof of greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 60°. *Water* moderately in winter, freely other times. *Propagate* by cuttings of side shoots 3 or 4 in. long, removed with portion of old stem attached, inserted in well drained pots of sandy soil in temp. 65° to 75° in July, Aug., or Sept.

Ceterach (Scale Fern).—*Ord.* Filiaceæ. Hardy fern. Evergreen. *Nat.* Britain. *Ht.* 2 to 6 in. *Species* cultivated, 1. *Compost*, sandy peat, pounded mortar, loam & sand. *Position*, chinks, crevices of exposed sunny walls. *Plant*, Ap. *Propagate* by spores similar to *Adiantum*; division of plants in Ap.

Chænostoma.—*Ord.* Scrophulariaceæ. Half-hardy herbs & shrubs *Nat.* S. Africa. *Int.* 1816. *Ht.* 4 in. to 2 ft. *Species* cultivated, 5. *Soil*, ordinary. *Position*, sunny beds or borders outdoors May to Oct., greenhouse or frame in winter. *Plant* outdoors in May. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 65° to 70° in Mar.; cuttings inserted in well drained pots of sandy soil in greenhouse or cold frame in Sept.

Chærophyllum (Bulbous-rooted Chervil).—*Ord.* Umbelliferæ. Hardy esculent vegetable. *Nat.* Europe. *Int.* 1726. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, white; June. *Roots* carrot-like, yellowish white, sweet; cooked & served as carrots. *Soil*, ordinary. *Position*, sunny beds outdoors. *Propagate* by seeds sown 1 in. deep in drills 1 ft. apart in Aug., Sept. & Oct. *Thin* out seedlings to 8 in. apart in May. *Lift* roots in Aug. & store them in dry, dark places until required for use.

Chain Fern (*Woodwardia radicans*)—see Woodwardia.

Chalice Flower (*Narcissus pseudo-narcissus*)—see Narcissus.

Chamæbatia.—*Ord.* Rosaceæ. Half-hardy shrub. Evergreen. *Nat.* Sierra Nevada. *Int.* 1859. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers,* white; sum. *Compost,* two parts loam, one part peat & sand. *Position,* pots in cool greenhouse, or sunny rockeries outdoors S. of England. *Pot,* Mar. *Plant,* Ap. *Water* moderately in winter, freely in sum. in pots. *Propagate* by cuttings inserted in sandy soil in cold frame in July or Aug.

Chamædorea.—*Ord.* Palmaceæ. Stove palms. *Nat.* New Grenada, Mexico, S. America, Trop. America. *Int.* 1846. *Ht.* 1 to 10 ft. *Species* cultivated, 16. *Compost,* two parts peat, one part loam & sand. *Position,* shady part of stove in pots or tubs. *Pot,* Mar. *Water* moderately Sept. to Mar., abundantly afterwards. *Temp.,* Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown 1 in. deep in above compost in pots, in temp. 85° in Mar.

Chamæpeuce (The Fish Bone Thistle, Herrin Bone Thistle).—*Ord.* Compositæ. Half-hardy herbaceous perennials. Orn. foliage. *Nat.* S. Europe, Syria. *Int.* 1714. *Ht.* 2 to 3 ft. *Species* cultivated, 2. *Flowers,* purple; June to Aug. *Leaves,* green, variegated white. *Soil,* ordinary. *Position,* pots in cool greenhouse, or ornamental beds outdoors in sum. *Plant,* May or June. *Cut* off flower heads directly they appear if handsome foliage is desired. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. of 60° to 70° in Feb., or in Sept. in similar temp., keeping seedlings in greenhouse during winter.

Chamærops (Fan Palm, African Hair Palm, European Palm).—*Ord.* Palmaceæ. Greenhouse & half-hardy palms. *Nat.* S. Europe, N. Africa. *Int.* 1731. *Ht.* 4 to 10 ft. *Species* cultivated, 2. *Leaves,* fan-shaped, green. *Compost,* two parts rich loam, one part decayed leaf-mould & sand. *Position,* well drained pots in greenhouse or sheltered well drained beds outdoors in S. of England. *Pot,* Mar. *Plant,* Ap. *Temp.,* Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Water* moderately in winter, freely in sum. *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed from parent plant in Ap. or Aug.

Chamomile Oil-plant (*Anthemis nobilis*)—see Anthemis.

Chandelier Flower (*Brunsvigia Josephinæ*)—see Brunsvigia.

Chandelier Tree (*Pandanus candelabrum*)—see Pandanus.

Changeable Primrose (*Primula commutata*)—see Primula.

Chaplet Flower (*Stephanotis floribunda*)—see Stephanotis.

Charity (*Polemonium cœruleum*)—see Polemonium.

Charles X. Lilac (*Syringa vulgaris var. grandiflora*)—see Syringa.

Chaste Tree (*Vitex Agnus-castus*)—see Vitex.

Cheddar Pink (*Dianthus cæsius*)—see Dianthus.

Cheilanthes (Californian Lace Fern, Lip Fern).—*Ord.* Filices. Stove & greenhouse ferns. *Nat.* Australia, America, California, N. India, Cape of Good Hope, Mexico. *Int.* 1775. *Ht.* 6 to 12 in. *Species* cultivated, 20. *Compost,* two parts peat, one part loam & silver sand. *Position,* pots in shade. *Pot,* Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.,* stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores similar to *Adiantum.*

Cheiranthus (Gilliflower, Wallflower, Bleeding Heart). — *Ord.* Cruciferæ. Hardy biennials or perennials. *Nat.* Europe, Madeira, California. *Int.* 1573. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3; varieties numerous. *Flowers,* single & double, various colours, fragrant; Mar. to July. *Soil,* rich ordinary.

Position, old walls, beds, borders, pots. *Wall culture:* *Sow* seeds in chinks of walls in Mar. or Aug., & cover seeds thinly with fine soil. *Keep* wall watered until seedlings appear. *Plant* seedlings in chinks in Ap. or Aug. *Bed & border culture:* *Sow* seeds $\frac{1}{4}$ in. deep in sunny place outdoors in Ap. or May. *Transplant* seedlings in June or July 12 in. apart, also in permanent position in Sept. & Oct. *Firm* ground essential for final planting. *Pot culture:* *Sow* seeds outdoors in Ap. or May. *Transplant* seedlings 12 in. apart in June or July. *Lift* plants in Sept. & put in ordinary mould in pots. *Keep* plants in cold frame till flower buds show, then remove to window or greenhouse. *Water* moderately. *Propagate* double or perennial kinds by cuttings of side shoots inserted in shady border in Aug. or Sept., or in pots or boxes of sandy soil in cold frame in Aug.

Chelidonium (Celandine, Swallow-wort).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* Britain. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, yellow; Ap. to Aug. *Soil*, ordinary. *Position*, damp shady borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in shade outdoors in Ap.; division of roots in Ap.

Chelone (Bellamy, Turtle Head, White Shell-flower, Turtle Bloom). *Ord.* Scrophulariaceæ. Hardy herbaceous perennials. *Nat.* N. Carolina, N. America. *Int.* 1752. *Ht.* 1 to 3 ft. *Flowers*, purple, rose; June to Oct. *Soil*, rich, deep. *Position*, open borders. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 55° to 65° in Mar., or similar depth in soil in cold frame in Ap., transplanting seedlings outdoors in May & June; cuttings inserted in sandy soil in cold frame in June & July; division of plants in Aug. & Sept.

Chenopodium (All-Good, Good King Henry, Wild Spinach).—*Ord.* Chenopodiaceæ. Hardy perennial; esculent vegetable. *Nat.* Britain. *Ht.* 12 in. *Species* cultivated, 1. *Soil*, good, well trenched & liberally manured. *Position*, dryish, sunny. *Sow* seeds 1 in. deep in drills 12 in. apart in Ap. *Thin* seedlings out to 9 in. apart in May. *Cover* bed in Oct. with thin layer of manure. *Gather* young shoots in Ap. as substitute for asparagus; leaves in May & June in lieu of spinach. *Renew* beds every 3 or 4 years.

Chequered Daffodil (*Fritillaria meleagris*)—see Fritillaria.

Chequered Lily (*Fritillaria meleagris*)—see Fritillaria.

Chequer Tree (*Pyrus torminalis*)—see Pyrus.

Cherokee Rose (*Rosa lævigata*)—see Rosa.

Cherry (*Cerasus caproniana & avium*).—*Ord.* Rosaceæ. *Nat.* England, Europe. *Species* cultivated, nearly 100. *Flowers*, white; Mar. *Soil*, rich, sandy; stiff or gravelly unsuitable. *Position*, standards, pyramids, & bushes open & sunny; May Duke & early kinds on south & west walls or fences; Bigarreau & Morello on east or north walls. *Plant* standards 25 ft. apart; pyramids, 15 ft.; horizontal or fan-trained, 15 ft.; bush-trained, 5 to 8 ft.; cordons, 18 in. *Time to plant*, Oct. to Feb. *Depth* for roots, 6 in. *Stocks* for standard trees, seedling Duke or Morello; for dwarf trees, Mahaleb Cherry (*Cerasus Mahaleb*). *Mode of bearing:* Morello bears fruit along full length of shoot of previous year's growth; other kinds at base of shoots only, called "spurs." *Pruning:* Standards, simply remove branches when too thick; pyramids & bushes, cut back all shoots to 3 in. in June, except those required to form branches, which leave 6 or 8 in.; cordons, cut all shoots except leading one similarly; horizontal & fan-trained, cut back side shoots to 3 in., leading ones to 6 in. in June; Morello, remove old or weak shoots only in Dec. Winter pruning consists of removal of dead or over-crowded shoots & cutting back those omitted in sum. *Protect* early cherries by nets or tiffany. *Pot culture:* Plant in 10 or 12 in. pots in Oct. *Compost*, two parts turfy loam, one part decayed manure. *Place* trees in sheltered position outdoors till Jan., then remove them to greenhouse or vinery. *Temp.*, Jan. to Mar. 45° to 60°; Mar. to June 55° to 65°. *Water* moderately. *Ventilate* moderately before & after flowering, freely when in flower. *Propagate* by sowing stones 2 in. deep outdoors in July or Aug.; budding choice varieties on stocks named above in July; grafting in Mar.

Cherry Apple (*Pyrus baccata*)—see Pyrus.

Cherry Bay (*Cerasus lusitanica*)—see Cerasus.

Cherry-Laurel Oil-plant (*Cerasus Lauro-cerasus*)—see Cerasus.

Cherry Pie-flower (*Heliotropium peruvianum*)—see Heliotropium.

Cherry Plum-tree (*Prunus Myrobalana*)—see Prunus.

Cherry Tomato-plant (*Solanum lycopersicum var. cerasiforme*)—see Tomato.

Chervil (*Anthriscus cerefolium*).—*Ord.* Umbelliferæ. Hardy annual herb used for garnishing & flavouring. *Nat.* Europe. *Int.* 1655. *Ht.* 6 in. *Varieties*, 2. *Soil*, ordinary. *Position*, shady in sum., south border in winter. *Sow* seeds broadcast ⅛ in. deep, or similar depth in drills 6 in. apart in Mar. or Oct.

Chichester Elm (*Ulmus montana var. cebennensis*)—see Ulmus.

Chicory (*Cichorium intybus*).—*Ord.* Compositæ. Hardy perennial; esculent vegetable. *Nat.* Britain. *Species* cultivated, 1; variety 1. *Flowers*, blue; July to Sept. *Ht.* 2 ft. 6 in. Roots used when dry for mixing with coffee; leaves, when forced, for salad. *Soil*, rich light. *Position*, open, away from trees. *Sow* seeds ½ in. deep in drills 15 in. asunder first week in May. *Thin* seedlings when an inch to 8 in. apart in row. No liquid or artificial manures required. *Lift* roots in Nov. & store them in dry soil or sand in outhouse. *Force* leaves for salad by placing roots close together in large pots or deep box, using ordinary soil. Put pots or boxes in temp. 55° to 65°, & keep quite dark. *Gather* blanched leaves when three to six inches long.

Chignon Fern (*Cibotium regale*)—see Cibotium.

Chilian Arbor-vitæ (*Libocedrus chiliensis*)—see Libocedrus.

Chilian Arrow-head (*Sagittaria montevidensis*)—see Sagittaria.

Chilian Pine-tree (*Araucaria imbricata*)—see Araucaria.

Chili Jasmine (*Mandevilla suaveolens*)—see Mandevilla.

Chili Nettle (*Loasa aurantiaca*)—see Loasa.

Chilies (*Capsicum annuum*)—see Capsicum.

Chili Pepper (*Capsicum annuum*)—see Capsicum.

Chimaphila (Spotted Winter Green, Prince's Pine, Pipsissewa, Ground Holly).—*Ord.* Ericaceæ. Hardy dwarf plants. Evergreen. *Nat.* N. America. *Int.* 1752. *Ht.* 3 to 6 in. *Species* cultivated, 2. *Flowers*, white, red; June & July. *Compost*, two parts leaf-mould, one part sand. *Position*, shady rockery outdoors. *Plant*, Ap. *Propagate* by division of plants in Ap.

Chimney Plant (*Campanula pyramidalis*)—see Campanula.

Chimonanthus (Japan Allspice).—*Ord.* Calycanthaceæ. Hardy shrub. Deciduous. *Nat.* Japan. *Int.* 1766. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, white, yellow, purple, fragrant; Nov. to Feb. *Soil*, deep, rich, sandy. *Position*, against south or west walls. *Plant*, Feb. *Prune* in Feb., cutting away all shoots that have flowered to within 1 in. of base, except those required to furnish plants with branches. *Propagate* by layering shoots in Sept. or Oct.

China Aster (*Callistephus hortense*)—see Callistephus.

China Creeper (*Quamoclit vulgaris*)—see Quamoclit.

China Red Rose (*Rosa semperflorens*)—see Rosa.

China Rose (*Rosa indica*)—see Rosa.

Chinese Apple (*Pyrus spectabilis*)—see Pyrus.

Chinese Arbor-vitæ (*Biota orientalis*)—see Biota.

Chinese Arrow-root-plant (*Nelumbium speciosum*)—see Nelumbium.

Chinese Azalea (*Azalea sinensis*)—see Azalea.

Chinese Box-tree (*Buxus chinensis*)—see Buxus.

Chinese Cherry (*Cerasus serrulata*)—see Cerasus.

Chinese Crab (*Pyrus spectabilis*)—see Pyrus.

Chinese Dwarf Privet (*Ligustrum sinense nanum*)—see Ligustrum.

Chinese Elm (*Ulmus campestris var. chinensis*)—see Ulmus.

Chinese Fringed Primrose (*Primula sinensis fimbriata*) — see Primula.

Chinese Holly (*Ilex chinensis*)—see Ilex.

Chinese Honey-Locust-tree (*Gleditschia sinensis*)—see Gleditschia.

Chinese Honeysuckle (*Lonicera flexuosa*)—see Lonicera.

Chinese Ivy (*Rhyncospermum jasminoides*)—see Rhyncospermum.

Chinese Jasmine (*Rhyncospermum jasminoides*) — see Rhyncospermum.

Chinese Juniper (*Juniperus chinensis*)—see Juniperus.

Chinese Lace-Bark Pine-tree (*Pinus Bungeana*)—see Pinus.

Chinese Lilac (*Syringa chinensis*)—see Syringa.

Chinese Monk's-hood (*Aconitum chinensis*) – see Aconitum.

Chinese Pine-tree (*Pinus sinensis*)—see Pinus.

Chinese Pink (*Dianthus chinensis*)—see Dianthus.

Chinese Pitcher-plant (*Nepenthes distillatoria*)—see Nepenthes.

Chinese Primrose (*Primula sinensis*)—see Primula.

Chinese Privet (*Ligustrum sinensis*)—see Ligustrum.

Chinese Rose Mallow (*Hibiscus rosa-sinensis*)—see Hibiscus.

Chinese St. John's-wort (*Hypericum chinensis*)—see Hypericum.

Chinese Tree Pæony (*Pæonia moutan*)—see Pæonia.

Chinese Tulip-tree (*Magnolia fuscata*)—see Magnolia.

Chinese Water Lily (*Nelumbium speciosum & Nymphæa pygmæa*)—see Nelumbium & Nymphæa.

Chinese Wax Privet (*Ligustrum lucidum*)—see Ligustrum.

Chinese Wistaria (*Wistaria sinensis*)—see Wistaria.

Chinese Yam (*Dioscorea batatos*)—see Dioscorea.

Chinese Yew-tree (*Taxus nucifera & Podocarpus chinensis*) — see Taxus & Podocarpus.

Chionanthus (Fringe Tree, Poison Ash, Virginian Snow-flower).—*Ord.* Oleaceæ. Hardy trees & shrubs. Deciduous. *Nat.* China, N. America. *Int.* 1796. *Ht.* 3 to 25 ft. *Species* cultivated, 2. *Flowers*, white, fragrant; May & June. *Soil*, sandy loam. *Position*, moist sheltered shrubbery. *Plant* Oct. to Feb. *C. virginica* suitable for pot culture for spring flowering in heated or cold greenhouses. *Pot*, Nov. *Water* moderately Nov. to Ap., freely afterwards. *Plunge* pot to rim outdoors from June to Feb. *Propagate* by seeds sown in sandy soil in cold frame in Ap.; grafting on Ash in Mar.; budding on Ash in July.

Chionodoxa (Glory of the Snow, Sardinian Snow Glory, Dwarf Snow Glory).—*Ord.* Liliaceæ. Hardy deciduous bulbous plants. *Nat.* Crete, Sardinia. *Int.* 1877. *Ht.* 4 to 6 in. *Species* cultivated, 4. *Flowers*, white, blue; Feb. to May. *Soil*, sandy loam. *Position*, sunny rockeries, well drained. *Plant* bulbs 1 in. apart & 3 in. deep in Sept. *Lift* & replant every three years *Keep* soil moist until foliage dies, then withhold water. *Pot culture: Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Sept., planting 12 bulbs 1 in. deep in a 3-in. pot, well drained. *Cover* pot with ashes outdoors or in frame until Jan., then remove to window or greenhouse. *Water* moderately Jan. to Ap., freely Ap. to June, none afterwards. *Propagate* by seeds sown ¼ in. deep in boxes of light soil in cold frame in Aug.; offsets treated as mature bulbs.

Chirita.—*Ord.* Gesneriaceæ. Stove herbaceous perennial & evergreen plants. *Nat.* China, Chiriqui, Ceylon. *Int.* 1840. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, purple, blue, lilac, white; June to Sept. *Compost*, equal parts peat & leaf-mould, half a part fibry loam, & half a part of silver sand & charcoal. *Pot.* Feb. Shake away old soil from roots & put in small pots first, shifting into larger size when plants begin to grow. *Water* moderately at first, increasing supply when plants grow freely; keep nearly dry Oct. to Feb. *Position*, on shelf near glass. *Liquid* or artificial manure may be applied when flower buds appear. *Temp.*, Nov. to Feb. 55° to 65°; Feb. to Nov. 70° to 85°. *Propagate* by seeds sown in well drained pots of above compost in Mar. Cover seeds with sprinkle of sand, place a square of glass over each pot & put latter in temp. 75° to 85°. Keep soil moderately moist. Transplant seedlings when three leaves are formed into small pots & treat as advised for old plants. Can be propagated also by large leaves, cutting their main ribs through & laying undersides on pans of sandy soil in temp. 65° to 75° in sum.

Chionographis.—*Ord.* Liliaceæ. Half-hardy herbaceous perennial. *Nat.* Japan. *Int.* 1880. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; Mar. to May. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, warm, well drained south border outdoors, or pots in cold frame. *Plant*, Oct. or Feb. *Pot*, Feb. *Propagate* by seeds sown ⅛ in. deep in above compost in a pot, pan, or box, in Mar., in cold frame; division of roots in Sept.

Chives (*Allium schœnoprasum*).—*Ord.* Liliaceæ. Hardy perennial; esculent vegetable. *Nat.* Britain. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, purple; June to Aug. *Leaves* used as substitute for onions in soups & salads. *Soil*, ordinary rich. *Position*, open garden. *Plant* 8 in. apart in Mar. *Renew* bed every third year. *Cut* foliage to ground in Oct. & cover plants with a little soil. *Propagate* by division of roots in Oct. or Mar.

Chlidanthus.—*Ord.* Amaryllidaceæ. Half-hardy herbaceous plant. *Nat.* Buenos Ayres. *Int.* 1820. *Ht.* 8 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; May & June. *Compost*, equal parts peat, leaf-mould, loam & silver sand. *Position*, warm, well drained bed or border outdoors. *Plant* bulbs 3 in. deep in Ap. *Lift* bulbs in Oct. & store them in sand in frost-proof place during winter. *Pot culture:* Plant bulbs 1 in. apart & 2 in. deep in above compost in 5 in. pots in Ap. Water moderately first, freely when in active growth. Grow in cold frame or cool greenhouse. Withhold water from roots after Sept. until repotting time. *Propagate* by offsets in Ap.

Chlora (Yellow Centaury, Yellow-wort).—*Ord.* Gentianaceæ. Hardy biennials. *Nat.* Europe. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, golden yellow; June to Aug. *Soil*, heavy loam. *Position*, moist borders. *Propagate* by seeds sown ⅛ in. deep in shady bed outdoors in July, transplanting seedlings into flowering positions in Oct.

Chlorogalum (Soap Plant).—*Ord.* Liliaceæ. Hardy bulbous plant. *Nat.* California. *Int.* 1819. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white, purple; May to July. *Soil*, light. *Position*, south border, well drained. *Plant* bulbs 4 in. deep and 3 in. apart in Oct. or Mar. *Replant* every three years. *Propagate* by offsets planted similarly to old bulbs; by seeds sown ⅛ in. deep in well-drained pots of sandy soil in Mar.

Chlorophytum (Club Palm, Gœthe Plant).—*Ord.* Liliaceæ. Greenhouse plants. Orn. foliage. *Nat.* Sierre Leone, Cape of Good Hope. *Int.* 1751. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white; Feb. to Nov. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, variegated & tall kinds in pots; drooping stemmed species in pots or baskets suspended in window or greenhouse. *Pot*, Mar. *Temp.*, Oct to Mar. 45° to 50°; Mar. to Oct. 55° to 65°. *Water* moderately in winter, freely other times. *Propagate* by seeds sown ⅛ in. deep in well drained pots of light soil in temp. 65° in Mar.; by offshoots inserted singly in small pots under bell-glass in window or greenhouse in Ap.; by division of roots when repotting.

Chocolate-nut-tree (*Theobroma cacao*)—see Theobroma.

Choisya (Mexican Orange-flower).—*Ord.* Rutaceæ. Hardy flowering shrub. Evergreen. *Nat.* Mexico. *Int.* 1825. *Ht.* 2 to 6 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; May to Aug. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, sheltered shrubberies S. & W. of England & Ireland, against south walls N. of England. *Plant*, Oct. or Mar. *Prune* after flowering, shortening straggling shoots only. *Pot culture: Compost* as above. *Pot*, Sept. or Oct. *Water* moderately Sept. to Mar., freely afterwards. *Keep* plants in cool greenhouse Nov. to May, remainder of time outdoors. *Propagate* by cuttings of shoots 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 55° to 65°, Mar. to June.

Choke Cherry (*Prunus virginiana*)—see Prunus.

Choke Pear (*Pyrus communis*)—see Pyrus.

Choop Tree (*Rosa canina*)—see Rosa.

Chorizema.—*Ord.* Leguminosæ. Greenhouse flowering plants. Evergreen. *Nat.* New Holland. *Int.* 1803. *Species* cultivated, 7. *Ht.* 18 in. to 4 ft. *Flowers*, orange, red, yellow, scarlet; Mar. to July. *Compost*, equal parts fibry peat & loam, one-fourth sand. *Position*, pots, or in well drained beds in greenhouses. *Pot*, Mar. or June; firm potting essential. *Prune* straggling shoots slightly after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy compost in temp. 65° to 70° in Mar.; by cuttings inserted in pots of sandy peat under bell-glass in temp. 65° in sum.

Chriseis of California (*Eschscholtzia californica*)—see Eschscholtzia.

Christmas (*Ilex aquifolium*)—see Ilex.

Christmas Daisy (*Aster grandiflorus*)—see Aster.

Christmas-flowering Iris (*Iris alata*)—see Iris.

Christmas Pride (*Ruellia paniculata*)—see Ruellia.

Christmas Rose (*Helleborus niger*)—see Helleborus.

Christmas Shield Fern (*Aspidium acrostichoides*)—see Aspidium.

Christopher (*Actæa spicata* & *Osmunda regalis*)—see Actæa & Osmunda.

Christ's-Eye (*Inula Oculus-Christi*)—see Inula.

Christ's-Hair (*Scolopendrium vulgare*)—see Scolopendrium.

Christ's-Thorn (*Cratægus pyracantha*)—see Cratægus.

Chrysanthemum (Oxeye Daisy, Crown Daisy, Marsh Oxeye, Corn Marigold, Gowan, Yellow Cornflower, Goldlins, Marsh Fever-few, Midsummer Daisy).—*Ord.* Compositæ. Greenhouse, hardy annual, herbaceous perennial & shrubby plants. *Nat.* China, S. Europe, Britain. *Int.* (foreign species) 1764. *Ht.* 1 to 6 ft. *Species* cultivated, 6; varieties innumerable. *Flowers*, various; chiefly May to Dec. *Culture of annuals* outdoors: *Soil*, ordinary, rich. *Position*, open, sunny. *Plant* seedlings out in May. *Sow* seeds $\frac{1}{8}$ in. deep in boxes of light soil in temp. 65° to 70° in Mar., afterwards planting seedlings out; or similar depth where plants are to flower. *Thin* seedlings to 3 in. apart in June. *Gather* seed in Aug. *Pot culture of annuals: Sow* seeds as above. *Transplant* seedlings when 2 in. high at rate of four in a 5-in. pot, or seven in a 6-in. pot. *Compost*, two parts good soil, one part leaf-mould or decayed manure & sand. *Grow* plants in cold frame or greenhouse. *Water* moderately. *Thin* flower buds if fine blooms are wanted. *Give* weak liquid manure when flower buds appear. *Culture of Marguerite: Compost*, equal parts loamy soil & leaf-mould, fourth part silver sand. *Propagate* by cuttings inserted singly, or three in a 4-in. pot, in Ap. *Cover* pot with bell-glass or place in propagator. *Pot* cuttings when rooted in 3-in. pots, shifting them into 5-in. in Aug. *Stand* plants in full sun from July to Sept., place in cold frame from then to Nov., thence into greenhouse heated to temp. 50° to

55°. *Water* moderately. *Give* liquid manure when pot is full of roots. *Throw* plants away when a year old & raise fresh stock from cuttings. *Culture of ordinary chrysanthemums : Compost*, three parts fibry loam, one horse manure, one decayed tree leaves, one coarse silver sand, quarter part finely ground bones, same of dissolved bones, one part charcoal & wood ashes & little soot. *Pot* first time in 3-in. pots, Mar.; second, in 5 or 6-in., middle of Ap.; third, in 8 or 10-in., middle of June. *Stop* main stems 4 in. from base in Mar. for ensuring bushy plants; those to produce blooms for exhibition leave untouched. *Cut* down plants intended for dwarfs to within 6 in. of pot in May. *Thin* flower buds to one on each shoot when they are size of radish seed. *Stand* plants in full sun May to Sept., then remove to greenhouse. *Water* freely while outdoors, moderately in greenhouse. *Apply* liquid manure when flower buds form & continue till flowers open. *Propagate* by cuttings issuing from roots, inserting these singly in 2-in. pots in temp. 55° to 65° in Jan., Feb. or Mar., or in cold frames in Dec.; by seeds sown $\frac{1}{8}$ in. deep in light soil in temp. 65° in Mar. *After flowering* cut stems down & place plants in cold frame to produce cuttings, after which plant out in garden or discard. *Temp.* for plants whilst in flower, 45° to 50°. *Suitable liquid manures :* Nitrate of soda, $\frac{1}{4}$ oz. to gall. of water; sulphate of ammonia, $\frac{1}{2}$ teaspoonful to gall.; guano, $\frac{1}{2}$ oz. to gall.—all three once a week; sheep & cow dung, peck of each & $\frac{1}{2}$ peck of soot to 36 galls. of water, to be applied half diluted once weekly. *Outdoor culture : Propagate* by division of plants in Mar. or cuttings as above. *Plant*, Mar. *Water* freely in sum. *Thin* flower buds in July. *Give* liquid manure July to Sept. *Classes :* Incurved, petals curving inwards; reflexed, petals curving backwards; Anemone-flowered, flowers with dense centres & petals fringing their base; pompones, flowers small, petals reflexed, fringed or toothed; Japanese, flowers large, petals loosely arranged, variously shaped.

Chrysobactron (Hooker's Golden Wand).—*Ord.* Liliaceæ. Hardy bulbous perennials. *Nat.* New Zealand. *Ht.* 2 ft. *Int.* 1850. *Species* cultivated, 2. *Flowers*, yellow; May to July. *Compost*, two parts leaf-mould & one part light loam & sand. *Position*, warm well drained border or in pots in cold frame. *Pot* & plant Aug. to Nov. *Water* freely May to Sept.; keep dryish afterwards. *Propagate* by offsets treated as old bulbs.

Chrysocoma (Goldilocks).—*Ord.* Compositæ. Hardy perennial & evergreen. *Nat.* Britain, Cape of Good Hope. *Ht.* 18 in. *Species* cultivated, 2. *Int.* (foreign species) 1731. *Flowers*, yellow; June to Aug. *Soil*, sandy peat. *Position*, sunny well drained border or rockery. *Plant*, Mar. *Propagate* by cuttings of shoots of current year's growth, inserted in sandy peat under bell-glass in temp. 55° in June, July or Aug.

Chrysogonum.—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* United States. *Int.*, date unknown. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Compost*, equal parts loam, peat & leaf-mould. *Position*, open borders. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar.

Chrysopsis (Golden Aster, Maryland Star).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* United States, N. America. *Int.* 1827. *Ht.* 4 in. to 4 ft. *Species* cultivated, 4. *Flowers*, yellow; June to Oct. *Soil*, ordinary. *Position*, shrubberies or wild garden. *Plant*, Oct. or Mar. *Propagate* by division of plant in Mar.

Chrysoplenium (Golden Saxifrage).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* Britain. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, yellow; Ap. to July. *Soil*, boggy peat. *Position*, damp & shady. *Plant*, Oct. or Mar. *Propagate* by division of plants in Mar.

Chusan Daisy (*Chrysanthemum sinense*)—see Chrysanthemum.

Chusan Palm (*Chamærops Fortunei*)—see Chamærops.

Chysis.—*Ord.* Orchidaceæ. Stove deciduous epiphytal orchids. *Nat.* Guatemala, Mexico, Venezuela. *Int.* 1834. *Ht.* 18 in. *Species* cultivated, 6.

Flowers, yellow, crimson, purple, pink; Ap. to July. *Compost*, equal parts fibry peat, moss & potsherds. *Position*, well drained pots or blocks of wood. *Pot*, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by division of pseudo-bulbs in Feb. or Mar.

Ciboul Onion (*Allium fistulosum*)—see Allium.

Cider Tree (*Eucalyptus Gunni*)—see Eucalyptus.

Cienkowskia.—*Ord.* Scitammaceæ. Stove herbaceous perennial. *Nat.* Zanzibar. *Int.* 1872. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, rosy purple, fragrant; July to Sept. *Compost*, equal parts fibry loam & peat, with little sand. *Position*, pots in stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Aug., very little afterwards. *Propagate* by division of roots in Feb.

Cimicifuga (Rattle-root, Squaw-root, Snake-root, American Bugbane, Fœtid Bug-bane, Bugwort).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Eastern Siberia, Japan, N. America, Carolina. *Int.* 1737. *Ht.* 2 to 5 ft. *Species* cultivated, 5. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, moist shady borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in cold frame in Sept.; division of roots in Mar.

Cinnamon Fern (*Osmunda cinnamomea*)—see Osmunda.

Cinnamon Root (*Inula conyza*)—see Inula.

Cinnamon Rose (*Rosa cinnamomea*)—see Rosa.

Cineraria (Ragwort).—*Ord.* Compositæ. Greenhouse & hardy herbaceous perennials. Flowering & orn. foliage. *Nat.* E. & S. Europe, Canary Islands, Cape of Good Hope. *Int.* (parent of greenhouse kinds) 1777. *Ht.* 1 to 3 ft. *Species* cultivated, 3; varieties numerous. *Flowers*, various; spring & sum. *Culture of flowering cinerarias: Compost*, two parts yellow loam, one part leaf-mould & coarse silver sand. *Sow* seeds $\frac{1}{16}$ in. deep in well drained pans or pots of above finely sifted compost. *Cover* top of pot with square of glass, keep soil moist, & shade from sun. *Transplant* seedlings when three leaves are formed singly in small pots, keep in cold frame & shaded. *Shift* into 4½-in. pots in July, 6-in. size in Aug. *Remove* to greenhouse in Oct., near glass. *Apply* liquid manure twice weekly from Sept. onwards. *Fumigate* frequently to destroy aphis. *Temp.*, Oct. to time plants have ceased flowering, 45° to 50°. *Culture of orn. foliage kinds: Compost*, same as above. *Pot*, Mar. *Plant* outdoors in June. *Lift* in Sept. *Water* moderately if grown in pots. *Propagate* by cuttings of side shoots inserted in pots of sandy soil in temp. 65° in Mar.; seeds sown $\frac{1}{8}$ in. deep same time & soil, transplanting seedlings into small pots & growing in greenhouse till June. Silver-leaved kind used largely for sum. bedding.

Cirrhopetalum (Medusa's Head Orchid).—*Ord.* Orchidaceæ. Stove epiphytal evergreen orchids. *Nat.* Java, Phillipine Islands, Singapore. *Int.* 1839. *Ht.* 6 in. *Species* cultivated, 3. *Flowers*, red, brown, yellow; Jan. to Nov. *Compost*, equal parts fibrous peat & sphagnum. *Position*, well drained pots, baskets or blocks of wood. *Pot*, Mar. *Water* freely when plants are growing, moderately other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 65° to 75°. *Propagate* by division of pseudo-bulbs in Mar.

Cissus (Kangaroo or Elephant's Vine).—*Ord.* Vitaceæ. Stove orn. climber. *Nat.* Java. *Int.*, date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Leaves*, upper side velvety green, spotted with white, under sides reddish purple. *Compost*, two parts peat, one part leaf-mould & one loam & sand. *Pot*, Feb. or Mar. *Position*, pots, or in well drained beds, shoots trained up roof or on wire trellis. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 65° to 75°. *Propagate* by cuttings 2 in. long of young shoots, removed with portion of stem attached, & inserted in 2-in. pot filled with sandy peat in temp. 85° in Ap.

Cistus (Rock Rose, Gum Cistus).—*Ord.* Cistaceæ. Hardy & half-hardy evergreen shrubs. *Nat.* S. Europe, Crete, Spain, Barberry, Teneriffe. *Int.* 1548. *Ht.* 1 to 4 ft. *Species* cultivated, about 18. *Flowers*, purple, rose, white, yellow; Ap. to Aug. *Soil*, good ordinary. *Position*, pots in frame or cold greenhouse, sunny rockeries or against south walls. *Plant*, Mar. *Protect* in severe weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in boxes of sandy soil in cold frame or unheated greenhouse in Mar., transplanting seedlings into small pots & planting outdoors in June; by cuttings 4 in. long in pots of sandy soil in Sept. in cold frame or greenhouse.

Citron (*Citrus medica var. cedra*)—see Citrus.

Citron-flowered Rhododendron (*Rhododendron citrinum*) — see Rhododendron.

Citron Oil-plant (*Citrus medica*)—see Citrus.

Citron-scented Orchid (*Odontoglossum citrosmum*)—see Odontoglossum.

Citrus (Orange, Lemon, Shaddock, Adam's Apple, Lime, Citron, Forbidden Fruit).—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* Asia, China, Japan, Polynesia. *Int.* 1595. *Species* cultivated, 9. *Ht.* 4 to 20 ft. *Flowers*, white, fragrant; May to July. *Fruit: Sweet Orange*, golden rind, globular; *Lemon*, pale yellow, rind thin, oblong; *Citron*, yellow, thick rind, long, egg-shaped, lump at tip; *Shaddock*, greenish yellow, bitter rind, large, round; *Lime*, greenish yellow, smooth rind, globular, with nipple at top; *Mandarin*, reddish rind, flattened; *Seville*, thin rough rind, globular; *Maltese Blood*, red rind, dark red pulp, large; *Tangarine*, syn. with Mandarin; *St. Michael's*, red rind, globular, large. *Compost*, two parts good turfy loam, one part dry cowdung, charcoal, crushed bones & ballast. *Pot*, Feb., Mar. or Ap. *Position*, pots, tubs, or beds, all to be well drained, in cool or slightly heated greenhouses. *Water* freely Mar. to Oct., moderately afterwards. Apply liquid manure once a week to healthy plants from May to Oct. Syringe trees daily during sum. Stand trees in pots or tubs in sheltered position outdoors June to Sept. *Repotting* should not be done oftener than is actually necessary. *Prune* straggling shoots into shape in Mar. *Temp.*, Sept. to Feb. 45° to 50°; Feb. to Sept. 55° to 65°. *Fruit* formed one year will not ripen till next. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° in Mar. for producing stocks for grafting choice kinds on; by cuttings inserted in small pots of sandy soil in July; layering in Oct.; by budding in Aug.; by grafting in Mar.

City Avens (*Geum urbanum*)—see Geum.

Cladrastis (Yellow-wood Tree).—*Ord.* Leguminosæ. Hardy deciduous shrubs. *Nat.* Amoor, N. America. *Int.* 1812. *Ht.* 6 to 15 ft. *Species* cultivated, 2. *Flowers*, white; May. *Soil*, ordinary. *Position*, open shrubberies, or singly on lawns. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in ordinary soil outdoors in Mar.; cuttings of root inserted outdoors in spring.

Clammy Azalea (*Azalea viscosa*)—see Azalea.

Clammy Elm (*Ulmus camprestris var. viscosa*)—see Ulmus.

Clammy Lavender Cotton (*Santolina viscosa*)– see Santolina.

Clammy Lychnis (*Lychnis viscaria*)—see Lychnis.

Clammy Primrose (*Primula viscosa*)—see Primula.

Clarkia.—*Ord.* Onagraceæ. Hardy annuals. *Nat.* California, N. America. *Int.* 1826. *Ht.* 1 to 3 ft. *Species* cultivated, 2; varieties many. *Flowers*, white, rose, purple, lake; June to Oct. *Soil*, light, rich. *Position*, sunny borders or beds. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in Ap., May, or June where plants are required to flower. *Thin* seedlings to 8 in. apart when 3 in. high.

Clary (*Salvia sclarea*)—see Salvia.

Claytonia (Siberian Purslane, Spring Beauty, Winter Purslane).—*Ord.* Portulacaceæ. Hardy annuals & perennials. *Nat.* Cuba, Mexico, N.

America, Siberia. *Int.* 1768. *Ht.* 3 to 6 in. *Species* cultivated, 1 annual & 2 perennials; latter tuberous-rooted. *Flowers*, white, rose; Mar. to Aug. *Soil*, for annual species, ordinary; for perennials, damp peat or bog. *Position*, rockery for annual species; moist & shady border for perennials. *Plant* perennials in Oct. or Mar. *Propagate* annual species by seeds sown outdoors in Ap.; perennials by seeds similarly, or by offsets in Oct. or Mar.

Clayton's Flowering Fern (*Osmunda Claytoniana*)—see Osmunda.

Clematis (Hedge vine, Lady's Bower, Maiden's Honesty, Old Man, Old Man's Beard, Traveller's Joy, Virgin's Bower).—*Ord.* Ranunculaceæ. Hardy, half-hardy, & greenhouse deciduous shrubs & herbaceous perennials. *Nat.* Britain, China, Japan, Minorca, Nepaul, N. America, New Zealand, Portugal, S. Europe, Tartary, Texas, U.S. America. *Int.* (foreign species) 1569. *Ht.* 1 to 30 ft. *Species* cultivated, 31; varieties many. *Flowers*, various; Ap. to Oct. *Culture of hardy species: Compost*, equal parts turfy soil (loam), leaf-mould, decayed manure & road grit. *Position*, against walls, trellises, arbours, trunks of trees; in beds, with shoots trained to wire trellis, or allowed to cling naturally to branches. *Plant*, Feb., Mar., or June, each plant having a bed 2 ft. square. *Prune montana, florida, & Jackmanni* types in Feb., cutting the shoots back about two thirds of their length; *lanuginosa* & *viticella* types in Feb. or Mar., shortening shoots one third only. *Culture of greenhouse species: Compost*, two parts loam, one part leaf-mould, decayed manure & river sand. *Position*, pots, tubs, or beds, with shoots trained up roof. *Pot or plant*, June. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Oct. to Mar. 40° to 50°; Mar. to Oct. 55° to 65°. *Prune* as advised for outdoor culture. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy soil in temp. 65° in Mar., transplanting seedlings outdoors in June or July; cuttings of young shoots inserted in sandy soil in temp. 60° to 70° in spring; layering shoots at any period; grafting on roots of common species in spring.

Cleome (Spider flower).—*Ord.* Capparidaceæ. Half-hardy or stove annuals. *Nat.* W. Indies, Mexico. *Int.* 1817. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, rose; July. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, pots in warm greenhouse or sunny beds outdoors. *Plant* outdoors in June. *Water* moderately at all times. *Temp.* for plants in pots, 65° to 75°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 70° in Mar., transplanting seedlings into pots when 1 in. high.

Clerodendron (Glory-tree).—*Ord.* Verbenaceæ. Stove, greenhouse, & hardy deciduous climbing shrubs. *Nat.* Borneo, China, India, Java, Guinea, Trop. Africa. *Int.* 1790. *Ht.* 4 to 10 ft. *Species* cultivated, 18; varieties several. *Flowers*, crimson, white, scarlet; Ap. to Sept. *Compost*, equal parts loam, peat, leaf-mould, decayed manure & silver sand. *Pot*, Feb. *Prune* shoots after flowering to within 2 or 3 in. of their base. *Water* freely Mar. to Sept., moderately Sept. to Nov., after which keep dry. *Temp.*, Oct. to Feb. 55° to 60°; Feb. to Oct. 65° to 85°. *Plant* hardy species in ordinary soil in shrubbery in Oct. or Nov. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in temp. 75° in Mar.; cuttings of stems or shoots 3 in. long, inserted in sandy compost in temp. 70° to 75° in Jan., Feb., or Mar.

Clethra (White Alder-bush, West Indian Wild Pear, Pepper-bush).—*Ord.* Ericaceæ. Greenhouse & hardy deciduous shrubs. *Nat.* Carolina, Georgia, Jamaica, Madeira, U.S. America. *Int.* 1731. *Ht.* 3 to 12 ft. *Species* cultivated, 7. *Flowers*, white, fragrant; June to Oct. *Compost*, two parts loam, one part peat & sand. *Position*, front of shrubberies for hardy species; well drained beds or tubs for greenhouse species. *Pot or plant*, Nov. to Feb. *Water* greenhouse species moderately in winter, freely other times. *Temp.* for latter, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep outdoors in Mar., or in boxes of light soil in temp. 55° in Feb.; cuttings inserted in sandy soil under bell-glass in Oct.; layering in Oct.

Clethra-leaved Loose-strife (*Lysimachia Leschenaulti*)—see Lysimachia.

Clianthus (Glory Pea, Glory Vine, Parrot's-bill, Sturt's Desert Pea). —*Ord.* Leguminosæ. Greenhouse climbing shrub & herbaceous perennial. *Nat.* Australia, New Zealand. *Int.* 1832. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, red, black, purple, & scarlet; Mar. to Aug. *Compost*, two parts loam, one part leaf-mould & silver sand. *Position*, pots or beds in greenhouse. *Pot or plant*, Mar. *Prune* in Ap., shortening young shoots to within 2 in. of their base. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* foliage daily Ap. to Aug. *Temp.*, Oct. to Mar. 45° to 50°; Mar. to Oct. 55° to 65°. *Propagate* by seeds sown ¼ in. deep in well drained pot of light soil in temp. 75° in Mar.; cuttings of shoots inserted in sandy soil in temp. 75° to 85° in Mar. or Ap.

Cliff Brake Fern (*Pellæa densa*)—see Pellæa.

Cliff Daffodil (*Narcissus rupicola*)—see Narcissus.

Climbing Fumitory (*Adlumia cirrhosa*)—see Adlumia.

Climbing Groundsel (*Senecio mikanoides*)—see Senecio.

Climbing Polypody Fern (*Niphobolus heteractis*)—see Niphobolus.

Climbing Shield Fern (*Aspidium capense*)—see Aspidium.

Climbing Snake's-tongue Fern (*Lygodium scandens*)—see Lygodium.

Clintonia.—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* California, N. America. *Int.* 1788. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, white, rose, yellow; May to July. *Soil*, sandy peat. *Position*, moist shady border. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or Ap.

Clitoria (Butterfly Pea).—*Ord.* Leguminosæ. Stove evergreen flowering climbers. *Nat.* Brazil, India, U.S. America. *Int.* 1739. *Ht.* 5 to 15 ft. *Species* cultivated, 3. *Flowers*, blue, white, & pink; July, Aug., & Sept. *Compost*, equal parts peat, leaf-mould, loam, & silver sand. *Position*, pots, tubs, or beds in light plant stove. *Pot or plant*, Mar. *Water* freely Ap. to Sept., moderately afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 80°. *Propagate* by seeds sown ¼ in. deep in light soil in temp. 75° in Mar.; cuttings of side shoots inserted in sandy peat in temp. 80° at any time.

Clivia (Caffre Lily).—*Ord.* Amaryllidaceæ. Greenhouse evergreen flowering plant. Fleshy-rooted. *Nat.* S. Africa. *Int.* 1823. *Ht.* 15 in. *Species* cultivated, 1, *Flowers*, reddish-yellow; Ap. to June. *Compost*, two thirds good loam, one-third decayed manure & sand. *Position*, sunny, close to glass in greenhouse. *Pot*, Feb. *Water* freely Mar. to July, very little afterwards. *Temp.*, Sept. to Feb. 50° to 55°; Feb. to Sept. 65° to 75°. *Propagate* by seeds sown in light soil in temp. 75° in Mar.; division of roots at potting time.

Cloak Fern (*Nothoclæna distans*)—see Nothoclæna.

Clot (*Nuphar lutea*)—see Nuphar.

Cloth of Gold Crocus (*Crocus reticulatus*)—see Crocus.

Cloth-leaved Ash (*Fraxinus americana var. pannosa*)—see Fraxinus.

Clouded Iris (*Iris Xiphium*)—see Iris.

Cloud Grass (*Agrostis nebulosa*)—see Agrostis.

Clove Gilliflower (*Dianthus caryophyllus*)—see Dianthus.

Clove Gillyflower (*Dianthus caryophyllus*)—see Dianthus.

Clove Oil Plant (*Eugenia caryophyllata*)—see Eugenia.

Clove Pink (*Dianthus caryophyllus*)—see Dianthus.

Clove-scented Rose (*Rosa caryophyllacea*)—see Rosa.

Clove Shrubby Pink (*Dianthus caryophyllus var. fruticosus*—see Dianthus.

Clove Tongue (*Helleborus niger*)—see Helleborus.

Clove Tree (*Caryophyllus aromaticus*)—see Caryophyllus.

Cloven-flowered Toad-flax (*Linaria bipartita*)—see Linaria.

Clowesia.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Brazil. *Int.* 1842. *Ht.* 4 in. *Species* cultivated, 1. *Flowers*, white, pink; Mar. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off, very little at other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant at potting time.

Clown's Lung-wort (*Verbascum Thapsus*)—see Verbascum.

Club Palm (*Cordyline terminalis*)—see Cordyline.

Clusin's Cinquefoil (*Potentilla Clusiana*)—see Potentilla.

Clusins's Crocus (*Crocus Clusi*)—see Crocus.

Clusins's Daffodil (*Narcissus Clusi*)—see Narcissus.

Clusins's Tulip (*Tulipa Clusiana*)—see Tulipa.

Cluster Pine-tree (*Pinus pinaster*)—see Pinus.

Clustered Bell-flower (*Campanula glomerata*)—see Campanula.

Clustered-flowered Andromeda (*Andromeda racemosa*) — see Andromeda.

Clustered-flowered Fortune's Yew-tree (*Cephalotaxus Fortunei*) —see Cephalotaxus.

Clustered Ivy (*Hedera conglomerata*)—see Hedera.

Clustered Speedwell (*Veronica spicata corymbosa*)—see Veronica.

Clustered Wax-flower (*Stephanotis floribunda*)—see Stephanotis.

Cnicus (Blessed Thistle).—*Ord.* Compositæ. Hardy biennial. Orn. foliage. *Nat.* S. Europe. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Leaves*, deep green blotched with white. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown ⅛ in. deep in Mar. where plants are to grow.

Coakum (*Phytolacca decandra*)—see Phytolacca.

Cobæa (Cup and Saucer-plant, Mexican Ivy).—*Ord.* Polemoniaceæ. Greenhouse & half-hardy climbing perennial. *Nat.* Mexico. *Int.* 1792. *Ht.* 10 to 30 ft. *Species* cultivated, 1; variegated variety, 1. *Flowers*, purple; May to Oct. *Compost*, equal parts loam, leaf-mould, & silver sand. *Position*, pots or beds in greenhouse, or against south or south-west walls outdoors in sum. *Pot*, Mar. *Plant* outdoors in June. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 60° to 70°. *Water* freely in sum., moderately other times. *Propagate* ordinary species by seeds sown ⅛ in. deep in light soil in temp. 75° in Mar.; variegated species by cuttings of young side shoots inserted in sandy peat in temp. 75° in Mar. or Ap.

Cobæa-flowered Pentstemon (*Pentstemon cobœa*)—see Pentstemon.

Cob-nut (*Corylus avellana var. grandis*)—see Corylus.

Cobweb House Leek (*Sempervivum arachnoideum*)—see Sempervivum.

Cochineal Cactus (*Opuntia Tuna*)—see Opuntia.

Cochlearia (Horse-radish, Scurvy Grass).—*Ord.* Cruciferæ. Hardy esculent rooted perennial & biennial. *Nat.* Europe, Britain, N. Hemisphere. *Ht.* 2 in. to 2 ft. *Species* cultivated, 2. *Flowers*, white; Ap. to June. *Culture of Horse-radish: Soil*, ordinary, deep, rich. *Position*, open or shade. *Plant*, Jan. or Feb., 8 in. deep in rows 2 ft. apart. *Sets* (roots) to be 3 in. long, with ½ in. of crown pared off. *Re-plant* every third year. *Lift* for use as wanted. *Culture of Scurvy Grass: Soil*, ordinary. *Position*, open borders. *Sow* seeds in open garden in July; transplant seedlings to permanent position in Sept. for flowering following spring. Plant dies after flowering. Showy for flower borders in spring. *Propagate* horse-radish by seeds sown outdoors in July; cuttings of roots at planting time.

Cochliostema.—*Ord.* Commelinaceæ. Stove perennial. Orn. foliage.

Flowering. *Nat.* Andes of Ecuador. *Int.* 1867. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers,* blue, purple, fragrant; Sept. *Compost,* equal parts peat, leaf-mould, & loam. *Position,* pots in shady part of stove. *Pot,* Mar. *Water* very freely Ap. to Sept., moderately afterwards. *Syringe* foliage twice daily. *Temp.,* Sept. to Mar. 60° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by seeds sown ⅛ in. deep in sandy soil in temp. 80° at any time.

Cockle (*Lychnis Githago*)—see Lychnis.

Cock's-comb (*Celosia cristata*)—see Celosia.

Cock's-comb Stone-crop (*Sedum crista-galli*)—see Sedum.

Cock's-foot Grass (*Dactylis glomerata*)—see Dactylis.

Cock Rose (*Papaver Rhœas*)—see Papaver

Cocoanut Oil-plant (*Cocus nucifera*)—see Cocos.

Cocoanut Palm (*Cocos nucifera*)—see Cocos.

Cocoa Tree (*Theobroma cacao*)—see Theobroma.

Cocos (Cocoanut Palm).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Brazil, Buenos Ayres, E. Indies, S. America. *Int.* 1690. *Ht.* 3 to 50 ft. *Species* cultivated, about 6. *Leaves,* feather-shape (pinnate). *Compost,* two parts loam, equal parts peat & sand. *Position,* pots in shady stove. *Pot,* Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.,* Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° at any time.

Codiæum (Croton or South Sea Laurel).—*Ord.* Euphorbiaceæ. Stove evergreen shrubs. Orn. foliage. *Nat.* India, Polynesia, South Sea Islands, New Guinea, New Hebrides. *Int.* 1804. *Ht.* 3 to 10 ft. *Species* cultivated, 3; varieties many. *Leaves* beautifully variegated with various colours. *Compost,* two parts rich loam, one part peat & sand. *Position,* pots in stove close to the glass. *Pot,* Mar. *Water* freely Mar. to Sept., moderately afterwards. *Temp.,* Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by cuttings of the ends of shoots inserted singly in 2 in. pots filled with sandy soil in temp. 75° at any time, or in bottles of water in similar temp.; stem-rooting in Mar. or Ap.

Codlins and Cream (*Epilobium hirsutum*)—see Epilobium.

Cœlestina.—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* New Spain. *Int.,* date unknown. *Ht.* 10 in. *Species* cultivated, 1. *Flowers,* blue; June to Sept. *Soil,* ordinary. *Position,* warm, sheltered, well drained borders. *Plant,* Mar. or Oct. *Propagate* by seeds sown 1/16 in. deep in boxes of light soil in temp. 55° to 60° in Mar., transplanting seedlings outdoors in June; cuttings of young shoots in similar soil & temp. in Ap.

Cœlogyne.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Assam, Borneo, E. Indies, Java, Khasya, Moulmein. *Int.* 1822. *Ht.* 3 in. to 2 ft. *Species* cultivated, 18; varieties, 6. *Flowers,* white, yellow, fragrant; June to Aug., Oct. to Ap. *Compost,* equal parts fresh sphagnum moss & fibry peat. *Position,* pots or pans half filled with potsherds, & placed close to glass. *Pot,* Feb. or Mar.; have base of plant well above rim of pot or pan. *Temp.,* Mar. to Sept. 70° to 85°; Sept. to Nov. 65° to 75°; Nov. to Mar. 60° to 70°. *Water* freely Mar. to Aug.; moderately Aug. to Nov.; very little Nov. to Mar. *Growing season,* Mar. to Aug. *Resting period,* Sept. to Feb. *Propagate* by division of bulbs at potting time.

Coffea (Coffee-tree).—*Ord.* Rubiaceæ. Stove evergreen shrubs. *Nat.* Abyssinia, Siberia. *Int.* 1696. *Ht.* 5 to 15 ft. *Species* cultivated, 2. *Flowers,* white, fragrant; Aug. to Oct. *Fruit,* a small reddish, fleshy berry, containing two seeds enclosed in parchment-like shell. *Compost,* two parts turfy loam, one part leaf-mould & sand. *Position,* pots in moist plant stove. *Pot,* Mar. *Temp.,* Mar. to Sept. 75° to 85°; Sept. to Mar. 60° to 70°. *Water* freely in sum., moderately other times. *Propagate* by seeds sown ½ in. deep in light soil in temp. 85° in Mar.; cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 85° in sum.

Coffee Tree (*Coffea arabica*)—see Coffea.

Coix (Gromwell Reed, Job's Tears).—*Ord.* Graminaceæ. Half-hardy ornamental flowering annual grass. *Nat.* E. Indies, Japan. *Int.* 1596. *Ht.* 2 ft. *Species* cultivated, 1. *Inflorescence*, grey, pearly seeds borne in cluster; July, Aug. *Soil*, light, rich. *Position*, sunny border outdoors. *Propagate* by seeds sown ½ in. deep in light soil in temp. 65° to 75° in Mar., transplanting seedlings outdoors in May; or similar depth outdoors in Ap. where plants are to flower.

Colchicum (Autumn, Fog, Meadow, Michælmas, or Purple Crocus, Meadow Saffron, Naked Ladies).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. *Nat.* Britain, Caucasus, Crimea, Kashmir, Greece, Levant, S. Europe. *Int.* (foreign species) 1629. *Ht.* 1 to 4 in. *Species* cultivated, 10. *Flowers*, rose, purple, lilac, white, red, violet; Feb. & Mar., Sept to Nov. *Soil*, light sandy loam, enriched with decayed manure or leaf-mould. *Position*, moist beds on rockeries, shrubbery borders, or lawns near shade of trees. *Plant* bulbs 3 in. deep & 3 in. apart in July or Aug. *Foliage* dies down in June & July, & does not reappear until after plant has flowered. *Propagate* by seeds sown ⅛ in. deep in bed of fine soil outdoors in Aug. or Sept., or in pans or boxes of similar soil in cold frame at same time, transplanting seedlings 3 in. apart when two years old; division of bulbs in Aug. *Seedling bulbs* do not flower until four or five years old.

Coleus (Flame Nettle, Nettle Geranium).—*Ord.* Labiateæ. Stove perennials. Orn. foliage. *Nat.* Ceylon, Africa, E. Indies. *Int.* 1764. *Ht* 1 to 3 ft. *Species* cultivated, 1; varieties numerous. *Leaves*, richly variegated with all shades of colour. *Compost*, two parts turfy loam, one part well decayed manure, leaf-mould & little sand. *Position*, pots in stove in winter, greenhouse in sum. *Pot*, Feb. or Mar., pressing soil firmly in pots. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to June. 75° to 85°; June to Sept. 65° to 75°. *Water* very moderately Sept. to Mar., freely afterwards. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 75° in Feb., Mar., or Ap.; cuttings of young shoots inserted in light soil or cocoanut-fibre refuse at any time; grafting in spring.

Colewort (*Brassica oleracea*)—see Brassica.

Collared Begonia (*Begonia manicata*)—see Begonia.

Colletia (Anchor-plant).—*Ord.* Rhamnaceæ. Half-hardy evergreen shrubs. *Nat.* Chili, Peru, River de la Plata. *Int.* 1823. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow, white; May to Aug. *Leaves*, few. *Spines*, numerous. *Soil*, loamy. *Position*, sheltered, well drained borders, or in pots in cold greenhouse. *Plant* or pot in Oct. *Propagate* by cuttings of firm shoots 6 in. long, inserted in well drained pots of sandy soil in cold frame in Aug. or Sept.

Collinsia (Collins's-flower).—*Ord.* Scrophulariaceæ. Hardy annuals. *Nat.* Arkansas, California, Columbia, Mexico. *Int.* 1826. *Ht.* 3 to 12 in. *Species* cultivated, 4; varieties several. *Flowers*, purple, white, violet, rose, May to Sept. *Soil*, ordinary. *Position*, open beds or borders. *Propagate* by seeds sown ⅛ in. deep outdoors in Sept., Mar., or Ap. where plants are required to flower. *Thin* seedlings to 3 in. apart when 2 in. high.

Collinsonia (Collinson's-flower, Horse Mint, Heal All, Hard-hack, Horse Weed, Ox-Balm, Rich Weed, Stone Root).—*Ord.* Labiateæ. Hardy herbaceous perennials. *Nat.* U.S. America, N. America. *Int.* 1734. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; Sept. *Leaves*, very fragrant. *Soil*, ordinary. *Position*, sheltered moist border. *Plant*, Oct. or Mar. *Propagate* by division of roots in Oct. or Mar.

Collins's-flower (*Collinsia grandiflora*)—see Collinsia.

Collomia.—*Ord.* Polemoniaceæ. Hardy annuals, *Nat.* Chili, N.W. America. *Int.* 1826. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, red, yellow, purple, brown; May to Oct. *Soil*, ordinary. *Position*, open beds or borders. *Propagate* by seeds sown ⅛ in. deep outdoors in Sept., Mar. or Ap. where plants are required to flower. *Thin* seedlings to 3 in. apart when 2 in. high.

Colocasia (Bleeding Heart, West Indian Kale, Egyptian Ginger).—*Ord.* Araceæ. Stove herbaceous plants with perennial tuberous roots. Orn. foliage. *Nat.* E. Indies, Sandwich Islands, India. *Int.* 1551. *Ht.* 2 to 5 ft. *Species* cultivated, 3. *Leaves*, shield-like, heart or egg-shaped, deep green. *Compost*, equal parts turfy loam, peat, leaf-mould & silver sand. *Position*, well drained pots in shady plant stove. *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov., freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80°; Sept. to Nov. 65° to 75°; Nov. to Feb. 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Colour-changing Forget-me-not (*Myosotis versicolor*)—see Myosotis.

Columbine (*Aquilegia vulgaris*)—see Aquilegia.

Columnea.—*Ord.* Gesneriaceæ. Stove evergreen trailing shrubs. *Nat.* Columbia, W. Indies, Mexico, Guiana. New Grenada. *Int.* 1759. *Species* cultivated, 6. *Flowers*, yellow, orange, red, purple, brown; Feb., June, Aug., & Sept. *Compost*, equal parts fibrous peat, sphagnum moss & charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots 3 in. long, inserted in pots of above compost mixed with sand, in temp. 85°, Feb.

Colutea (Bladder Senna). — *Ord.* Leguminosæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, Levant. *Int.* 1568. *Ht.* 4 to 10 ft. *Species* cultivated, 2; variety 1. *Flowers*, red, yellow; June to Aug. *Soil*, ordinary. *Position*, open or shady shrubberies, banks, etc. *Plant*, Oct. to Feb. *Prune*, Nov., simply cutting away weak shoots & shortening straggling ones. *Propagate* by seeds sown 1 in. deep outdoors in Oct. or Mar.; cuttings of firm shoots inserted in sandy soil outdoors in Oct.

Colville's Gladiolus (*Gladiolus Colvillei*)—see Gladiolus.

Combretum (Caffre Butter-shrub).—*Ord.* Combretiaceæ. Stove evergreen climbers. *Nat.* Africa, Brazil, Mexico, Sierra Leone. *Int.* 1820. *Ht.* 6 to 20 ft. *Species* cultivated, 6. *Flowers*, yellow, orange, scarlet, white; Ap. to Aug. *Compost*, two parts loam, one part peat & sand. *Position*, pots, tubs, or borders in plant stove, shoots trained to pillars or roof. *Pot*, Mar. *Prune* side shoots to within 2 in. of base after flowering & cut away all weak ones. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* daily Mar. to Aug. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of side shoots 3 in. long, removed with slight portion of stem attached, & inserted in well drained pot of sandy soil in temp. 85° in sum.

Commelina (Blue Spider-wort, Day-flower).—*Ord.* Commelinaceæ. Greenhouse & hardy herbaceous perennials. *Nat.* Lima, U.S. America. *Int.* 1759. *Ht.* 1 to 4 ft. *Flowers*, yellow, blue, white; May to Oct. *Species* cultivated, greenhouse 2, hardy 2. *Culture of Greenhouse species: Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely Mar. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Culture of Hardy species: Soil*, light, rich. *Position*, warm, sheltered, well drained bed or border. *Plant* fleshy roots in Ap. *Protect* roots during winter on light soils with thick layer of ashes or manure. *Lift* roots in cold districts in Sept. & store away similarly to dahlias in frost-proof place, replanting in Ap. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 75° in Mar., transplanting seedlings outdoors in May to flower in Aug.; division of fleshy roots in Ap.

Common Aconite (*Aconitum Napellus*)—see Aconitum.

Common Adam's Needle (*Yucca gloriosa*)—see Yucca.
Common Alaternus (*Rhamnus Alaternus*)—see Rhamnus.
Common Alder (*Alnus glutinosa*)—see Alnus.
Common Almond-tree (*Amygdalus communis*)—see Amygdalus.
Common American Cowslip (*Dodecatheon meadia*)—see Dodecatheon.
Common Annual Candytuft (*Iberis umbellata*)—see Iberis.
Common Arrow-head (*Sagittaria sagittæfolia*)—see Sagittaria.
Common Ash (*Fraxinus excelsior*)—see Fraxinus.
Common Asparagus (*Asparagus officinalis*)—see Asparagus.
Common Avens (*Geum urbanum*)—see Geum.
Common Balm (*Melissa officinalis*)—see Melissa.
Common Bamboo (*Bambusa arundinacea*)—see Bambusa.
Common Barren-wort (*Epimedium alpinum*)—see Epimedium.
Common Bear's-Breech (*Acanthus mollis*)—see Acanthus.
Common Beech (*Fagus sylvatica*)—see Fagus.
Common Betony (*Stachys betonica*)—see Stachys.
Common Birch (*Betula alba*)—see Betula.
Common Black Currant (*Ribes nigrum*)—see Ribes.
Common Bladder Senna (*Colutea arborescens*)—see Colutea.
Common Blue Lilac (*Syringa vulgaris var. cærulea*)—see Syringa.
Common Box-tree (*Buxus sempervirens*)—see Buxus.
Common Broom (*Sarothamnus scoparius*)—see Sarothamnus.
Common Bugle (*Ajuga reptans*)—see Ajuga.
Common Carrot (*Daucus carota*)—see Daucus.
Common Cherry (*Cerasus Caproniana*)—see Cerasus.
Common Club Moss (*Lycopodium clavatum*)—see Lycopodium.
Common Columbine (*Aquilegia vulgaris*)—see Aquilegia.
Common Cotoneaster (*Cotoneaster vulgaris*)—see Cotoneaster.
Common Cowslip (*Primula veris*)—see Primula.
Common Cranberry (*Vaccinium oxycoccus*)—see Vaccinium.
Common Cultivated Plum (*Prunus domestica*)—see Prunus.
Common Dahlia (*Dahlia variabilis*)—see Dahlia.
Common Daisy (*Bellis perennis*)—see Bellis.
Common Daffodil (*Narcissus pseudo-narcissus*)—see Narcissus.
Common Double Red Lilac (*Syringa vulgaris var. rubra plena*)—see Syringa.
Common Double White Lilac (*Syringa vulgaris var. alba-plena*)—see Syringa.
Common Elm (*Ulmus campestris*)—see Ulmus.
Common Erect Yew-tree (*Taxus baccata var. erecta*)—see Taxus.
Common Evening Primrose (*Œnothera biennis*)—see Œnothera.
Common Fig-tree (*Ficus carica*)—see Ficus.
Common Filbert (*Corylus Avellana*)—see Corylus.
Common Foxglove (*Digitalis purpurea*)—see Digitalis.
Common Furze (*Ulex europæus*)—see Ulex.
Common Garden Balsam (*Impatiens Roylei*)—see Impatiens.
Common Garden Chrysanthemum (*Chrysanthemum sinense*)—see Chrysanthemum.
Common Garden Hyacinth (*Hyacinthus orientalis*)—see Hyacinthus.
Common Garden Iris (*Iris germanica*)—see Iris.
Common Garden Pæony (*Pæonia officinalis*)—see Pæonia.

Common Garden Leek (*Allium porrum*)—see Allium.

Common Garden Lettuce (*Lactuca sativa*)—see Lactuca.

Common Garden Nasturtium (*Tropæolum majus*) — see Tropæolum.

Common Garden Pink (*Dianthus plumarius*)—see Dianthus.

Common Garden Purslane (*Portulaca oleracea*)—see Portulaca.

Common Garden Ranunculus (*Ranunculus asiaticus*) — see Ranunculus.

Common Garden Sage (*Salvia officinalis*)—see Salvia.

Common Garden Snapdragon (*Antirrhinum majus*)—see Antirrhinum.

Common Garden Spinach (*Spinacia oleracea*)—see Spinacia.

Common Garden Thyme (*Thymus vulgaris*)—see Thymus.

Common Garden Tulip (*Tulipa gesneriana*)—see Tulipa.

Common Garlic (*Allium sativum*)—see Allium.

Common Giant Fennel (*Ferula communis*)—see Ferula.

Common Ginger (*Zingiber officinale*)—see Zingiber.

Common Globe-flower (*Trollius europæus*)—see Trollius.

Common Grape Hyacinth (*Muscari racemosum*)—see Muscari.

Common Gum Cistus (*Cistus cyprius*)—see Cistus.

Common Hardy Cactus (*Opuntia vulgaris*)—see Opuntia.

Common Heron's-bill (*Erodium cicutarium*)—see Erodium.

Common Honey Locust-tree (*Gleditschia triacanthos*)—see Gleditschia.

Common Hop (*Humulus lupulus*)—see Humulus.

Common House Leek (*Sempervivum tectorum*)—see Sempervivum.

Common Hydrangea (*Hydrangea hortensis*)—see Hydrangea.

Common Juniper (*Juniperus communis*)—see Juniperus.

Common Laburnum-tree (*Cytisus laburnum*)—see Cytisus.

Common Lavender (*Lavendula spica*)—see Lavendula.

Common Lavender-Cotton (*Santolina chamæcyparissus*)—see Santolina.

Common Lime-tree (*Tilia europæa var. intermedia*)—see Tilia.

Common Lungwort (*Pulmonaria officinalis*)—see Pulmonaria.

Common Maple (*Acer campestre*)—see Acer.

Common Milfoil (*Achillea millefolium*)—see Achillea.

Common Mock Orange (*Philadelphus coronarius*) — see Philadelphus.

Common Monk's-hood (*Aconitum Napellus*)—see Aconitum.

Common Mulberry-tree (*Morus nigra*)—see Morus.

Common Myrtle (*Myrtus communis*)—see Myrtus.

Common Oak (*Quercus Robur sessiliflora*)—see Quercus.

Common Oleander (*Nerium oleander*)—see Nerium.

Common Onion (*Allium cepa*)—see Allium.

Common Orache (*Atriplex hortensis*)—see Atriplex.

Common Orange Lily (*Lilium croceum*)—see Lilium.

Common Peach-tree (*Amygdalus persica vulgaris*)—see Amygdalus.

Common Pear-tree (*Pyrus communis sativa*)—see Pyrus.

Common Pentstemon (*Pentstemon gentianoides*)—see Pentstemon.

Common Primrose (*Primula acaulis*)—see Primula.

Common Privet (*Ligustrum vulgare*)—see Ligustrum.

Common Purple or Scotch Lilac (***Syringa vulgaris var. violacea***)—see Syringa.

Common Pyramidal Cypress (*Cupressus sempervirens*) — see Cupressus.

Common Red Currant (*Ribes rubrum*)—see Ribes.

Common Service-tree (*Pyrus sorbus*)—see Pyrus.

Common Silver Fir (*Picea pectinata*)—see Picea.

Common Small Daisy (*Bellium bellidioides*)—see Bellium.

Common Snowdrop (*Galanthus nivalis*)—see Galanthus.

Common Soapwort (*Saponaria officinalis*)—see Saponaria.

Common Spleenwort (*Asplenium trichomanes*)—see Asplenium.

Common Spoonwort (*Cochlearia officinalis*)—see Cochlearia.

Common Spruce (*Abies excelsa*)—see Abies.

Common St. John's-wort (*Hypericum hircinum*)—see Hypericum.

Common Stonecrop (*Sedum acre*)—see Sedum.

Common Sundew (*Drosera rotundifolia*)—see Drosera.

Common Sunflower (*Helianthus annus*)—see Helianthus.

Common Sun-rose (*Helianthemum vulgare*)—see Helianthemum.

Common Raspberry (*Rubus Idæus*)—see Rubus.

Common Rock Purslane (*Calandrinia discolor*)—see Calandrinia.

Common Rock-rose (*Cistus vulgaris*)—see Cistus

Common Rue (*Ruta graveolens*)—see Ruta.

Common Quince-tree (*Cydonia vulgaris*)—see Cydonia.

Common Thrift (*Armeria vulgaris*)—see Armeria.

Common Torch Lily (*Tritoma uvaria*)—see Tritoma.

Common Turnip (*Brassica rapa var. depressa*)—see Brassica.

Common Vervain (*Verbena officinalis*)—see Verbena.

Common Violet-flowered Lilac (*Syringa vulgaris var. violacea*)—see Syringa.

Common Walnut-tree (*Juglans regia*)—see Juglans.

Common Wallflower (*Cheiranthus Cheiri*)—see Cheiranthus.

Common Weeping Birch (*Betula alba var. pendula*)—see Betula.

Common White Alder (*Alnus alnifolia*)—see Alnus.

Common White Currant (*Ribes rubrum var. album*)—see Ribes.

Common White-flowered Jasmine (*Jasminum officinale*) — see Jasminum.

Common White Lilac (*Syringa vulgaris alba*)—see Syringa.

Common Willow (*Salix alba*)—see Salix.

Common Winter-green (*Pyrola minor*)—see Pyrola.

Common Woolly Mouse-ear Chickweed (*Cerastium tomentosum*)—see Cerastium.

Common Wormwood (*Artemisia absinthium*)—see Artemisia.

Common Yellow Balsam (*Impatiens Noli me-tangere*) — see Impatiens.

Common Yellow Crocus (*Crocus luteus*)—see Crocus.

Common Yew-tree (*Taxus baccata*)—see Taxus.

Compact Japan Cypress (*Retinospora filicoides*)—see Retinospora.

Comparettia.—*Ord.* Orchidaceæ. Stove epiphytal orchids, *Nat.* Brazil, Columbia, New Grenada. *Int.* 1836. *Ht.* 3 to 6 in. *Species* cultivated, 4. *Flowers*, rose, scarlet, purple; Nov. *Compost*, sphagnum moss, fibry peat. *Position*, on blocks of wood suspended from roof in plant stove. *Re-block*, Mar. or Ap. *Water* freely at all times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant in Mar.

Compass Plant (*Silphium laciniatum*)—see Silphium.

Comptonia (Fern-leaved Gale, Shrubby Sweet Fern-bush). — *Ord.* Myricaceæ. Hardy deciduous shrub. Orn. foliage. *Nat.* N. America. *Int*

1714. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Leaves* finely divided, downy, fern-like. *Soil,* peaty. *Position,* shady border. *Plant,* Oct. or Nov. *Propagate* by layering shoots in Sept., Oct. or Nov.

Conandron.—*Ord.* Gesneriaceæ. Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1879. *Ht.* 6 in. *Species* cultivated, 1. *Flowers,* white, pink, purple; June to Aug. *Soil,* peat & loam. *Position,* fissures of moist, sheltered rockery. *Plant,* Mar. or Ap. *Protect* in severe winters with covering of dry litter. *Propagate* by seeds sown in well drained pots of sandy peat & just covered with fine mould, in cold frame or greenhouse Mar. or Ap.; division of plant in Mar.

Concave-leaved Elm (*Ulmus campestris var. concavæfolia*) — see Ulmus.

Conical-tubed Fuchsia (*Fuchsia conica*)—see Fuchsia.

Conspicuous Adam's Needle (*Yucca conspicua*)—see Yucca.

Constantinople Campion (*Lychnis chalcedonica*)—see Lychnis.

Constantinople Nut (*Corylus colurna*)—see Corylus.

Convallaria (Lily of the Valley, May Lily).—*Ord.* Liliaceæ. Hardy herbaceous perennial. *Nat.* Britain, Europe, Asia, America. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers,* white; Mar. to June. *Outdoor culture: Compost,* equal parts loam, leaf-mould, decayed manure & sharp sand. *Position,* beds or borders under shade of trees, high walls, or fences for general culture; south border for early flowering. *Plant* single crowns 2 or 3 in. apart, with points just below surface, in Sept. & Oct. *Lift* & replant every 4 years, always planting largest crowns by themselves, next size alone, & smallest similarly. *Mulch* bed annually in Feb. with decayed manure. *Liquid manure* apply once a week, May to Sept., to beds more than a year old. *Pot culture: Compost,* equal parts good soil & leaf-mould. *Plant* one clump or a dozen single crowns in a 6 in. pot, well drained, in Oct. or Nov. *Place* inverted pot over crowns & stand pots in cold frame or under greenhouse stage until Jan., then remove into heat, or allow to bloom naturally in greenhouse or window. *Water* only when soil needs moisture in winter, freely when growth begins. *Forcing: Place* single crowns close together in shallow boxes, with cocoanut-fibre refuse between roots, & put boxes in temp. 80° to 85°. *Cover* points of crowns with inverted box or thick layer of moss until flowers appear, then remove it. *After forcing,* crowns of no value for flowering again, therefore discard them. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil outdoors in Mar.; division of crowns Sept. or Oct.

Convolvulus (Bearbind, Bellbind, Bindweed, Corn Lily, Woodbine, Bedbind, Devil's Garters, Hedge Lily, Hedge Bells, Sea Bells, Scammony).—*Ord.* Convolvulaceæ. Hardy annual & perennial twining & climbing plants. *Nat.* Britain, Europe, Caucasus, Africa, Levant, Portugal, Australia, China, America. *Int.* (foreign species) 1597. *Ht.* 6 in. to 10 ft. *Species* cultivated, 8 perennials & 1 annual. *Flowers,* white, blue, red, pink, purple; May to Oct. *Soil,* ordinary, rich. *Position,* dwarf kinds in open beds & borders; tall kinds at base of arbours, trellises, walls, or trunks of trees. *Plant* perennials in Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors in Mar., where plants are to flower, or in nursery bed, afterwards transplanting seedlings to permanent position; division of fleshy roots in Mar. or Ap.

Cool Tankard (*Borago officinalis*)—see Borago.

Cooperia (Evening Star).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plants. *Nat.* Texas. *Int.,* date unknown. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Flowers,* white, red, fragrant; Aug. *Compost,* equal parts peat, loam & leaf-mould. *Position,* pots in cool greenhouse or cold frame. *Pot,* Jan. or Feb. *Water* moderately until growth begins, then give freely; discontinue watering after Sept. & keep soil dry during winter. *Temp.,* Sept. to Feb. 40° to 45°; Feb. to May, 50° to 55°; May to Sept. 55° to 65°. *Propagate* by offsets in Feb.

Copalm Balsam-tree (*Liquidambar styraciflua*)—see Liquidambar.

Copoe Laurel (*Daphne laureola*)—see Daphne.

Copper-coloured Beech (*Fagus sylvatica var. cuprea*)—see Fagus.

Copper-coloured-flowered Sun-rose (*Helianthemum cupreum*)—see Helianthemum.

Copper-leaf (*Acalypha musaica*)—see Acalypha.

Cop-rose (*Papaver Rhœas*)—see Papaver.

Coprosma (Tasmanian Currant, Looking-glass Bush).—*Ord.* Rubiaceæ. Half-hardy evergreen shrub. Orn. foliage. *Nat.* New Zealand. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Leaves*, egg-shaped, green, blotched or variegated with creamy yellow. *Fruit*, coral red. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, pots in cool greenhouse. *Repot*, Mar. *Prune* straggling shoots into shape in Mar. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings removed in Mar., with small portion of old wood attached, & inserted in well drained pots of sandy soil in temp. 85° under bell-glass. *Hardy* in sheltered positions outdoors S. of England.

Coptis (Gold Thread, Mouth Root).—*Ord.* Ranunculaceæ. Hardy evergreen bog plants. *Nat.* N. America, Asia, Europe. *Int.* 1782. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; Ap. to July. *Soil*, boggy peat. *Position*, moist, shady. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pans of fine sandy peat in shady cold frame in Mar.; division of roots in Oct. or Mar.

Coral Barberry (*Berberidopsis corallina*)—see Berberidopsis.

Coral Berry (*Symphoricarpus vulgaris* & *Berberidopsis corallina*)—see Symphoricarpus & Berberidopsis.

Coral Creeper (*Kennedya prostrata*)—see Kennedya.

Coral-flowered Begonia (*Begonia corallina*)—see Begonia.

Coral-head-plant (*Abrus precatorius*)—see Abrus.

Coral Root (*Dentaria bulbifera*)—see Dentaria.

Coral Tree (*Erythrina indica*)—see Erythrina.

Cordyline (Club Palm, Palm Lily, Cabbage Palm).—*Ord.* Liliaceæ. Stove & greenhouse plants. Orn. foliage. *Nat.* South Sea Islands, China, New Holland, New Zealand. Madagascar, E. Indies, Mauritius. *Int.* 1820. *Ht.* 2 to 40 ft. *Species* cultivated, about 50; varieties numerous. *Compost*, two parts peat, one part loam & sand. *Position*, pots in stove or greenhouse. *Repot*, Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65° for greenhouse, 75° to 85° for stove; Sept. to Mar. 45° to 50° for greenhouse, 55° to 65° for stove. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.; cuttings of main stems cut into lengths of 1 in. & partially inserted horizontally in pots of sandy soil in Mar.; cuttings of fleshy roots inserted 1 in. deep in pots of sandy soil, in Mar. or Ap. in temp. 75° to 80°; stem rooting in Mar. or Ap.; offsets inserted in 2-in. pots of sandy soil at any time.

Coreopsis (Large-flowered Tickseed, Lance-leaved Tickseed, Slender-leaved Tickseed, Dyer's Tickseed).—*Ord.* Compositæ. Hardy annual a perennial herbaceous plants. *Nat.* Texas, U.S. America. *Int* 1699. *Ht.* 6 in. to 3 ft. *Species* cultivated, 6; varieties several. *Flowers*, yellow, crimson, brown; May to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant* perennials in Oct. or Mar., annuals in May or June. *Propagate* annuals by seed sown $\frac{1}{8}$ in. deep in boxes of light soil in temp, 65° to 70° in Mar., or outdoors in Ap. where plants are to flower; perennials by seed sown outdoors in Ap., transplanting seedlings when large enough to handle to permanent position; division of roots in Oct. or Mar.

Corfu Lily (*Funkia subcordata*)—see Funkia.

Coriandrum (Coriander).—*Ord.* Umbelliferæ. Hardy annual. *Nat.* S. Europe. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, white: sum. *Leaves* used for flavouring soups & salads. *Seed* ripens in Aug., & is largely employed in confectionery. *Soil*, ordinary. *Position*, south border. *Propagate* by seeds sown ¼ in. deep in drills 12 in. apart, Mar. or Sept.

Coris (Montpelier Coris).—*Ord.* Primulaceæ. Hardy biennial. *Nat.* S. France. *Int.* 1640. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, lilac; May to Aug. *Soil*, sandy peat. *Position*, well drained beds on sunny rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown 1/16 in. deep in Aug. or Ap. where plants are to grow.

Coris-leaved Candytuft (*Iberis corifolia*)—see Iberis.

Cork-barked Elm (*Ulmus suberosa*)—see Ulmus.

Cork Oak (*Quercus suber*)—see Quercus.

Cork Tree (*Quercus suber*)—see Quercus.

Corky-white Elm (*Ulmus racemosa*)—see Ulmus.

Corn Bottle (*Centaurea cyanus*)—see Centaurea.

Corn Camomile (*Anthemis arvensis*)—see Anthemis.

Corn Cockle (*Agrostemma Githago*)—see Agrostemma.

Corn-flower (*Centaurea cyanus*)—see Centaurea.

Corn Flag (*Antholyza æthiopica*)—see Antholyza.

Corn Flag (*Gladiolus communis*)—see Gladiolus.

Corn Lily (*Convolvulus arvensis* & *C. sepium*)—see Convolvulus.

Corn Marigold (*Chrysanthemum segetum*)—see Chrysanthemum.

Corn Pink (*Lychnis Githago*)—see Lychnis.

Corn Poppy (*Papaver Rhœas*)—see Papaver.

Corn Rose (*Papaver Rhœas*)—see Papaver.

Corn Salad (*Valerianella olitaria*)—see Valerianella.

Cornel (*Cornus sanguinea*)—see Cornus.

Cornelian Cherry (*Cornus mascula*)—see Cornus.

Cornfield Bell-flower (*Campanula hybrida*)—see Campanula.

Cornfield Gladiole (*Gladiolus segetum*)—see Gladiolus.

Cornish Elm (*Ulmus campestris var. cornubiensis*)—see Ulmus.

Cornish Money-wort (*Sibthorpia europæa*)—see Sibthorpia.

Cornish Variegated Money-wort (*Sibthorpia europæa variegata*)—see Sibthorpia.

Cornus (Bunch Berry, Dwarf Cornel, Cornelian Cherry, Cornel-tree, Dogwood, Dog Cherry, Dogberry, Pegwood, Skewerwood, False Box-wood, Green Osier).—*Ord.* Cornaceæ. Hardy deciduous trees & shrubs. Flowering & orn. foliage. *Nat.* Asia, Britain, N. America, U.S. America, India. *Int.* (foreign species) 1599. *Ht.* 6 in. to 15 ft. *Species* cultivated, 8; varieties several. *Flowers*, white, yellow, purple; Ap. to Aug. *Leaves*, green, or variegated with white & crimson. *Soil*, sandy peat for dwarf species, ordinary for others. *Position*, rockery for dwarf kinds; open or shady shrubberies for tall species. *Plant*, Oct. to Feb. *Prune*, Nov. or Dec., simply cutting branches into shape. *Propagate* by cuttings of firm shoots inserted in sandy soil outdoors in Nov.; layering shoots in Oct.; suckers, removed from plant in Nov. & replanted at once; grafting variegated kinds in Mar.; seeds sown outdoors in Mar.

Coronilla (Crown Vetch, Scorpion Senna).—*Ord.* Leguminosæ. Greenhouse shrubs & hardy perennial herbs. *Nat.* S. Europe. *Int.* 1596. *Ht.* 6 in. to 4 ft. *Species* cultivated, 3 shrubs, 2 herbaceous perennials. *Flowers*, yellow, pink, white, fragrant; May to Nov. *Culture of Greenhouse species: Compost*, two parts loam, one part peat & sand. *Position*, pots in light greenhouse. *Repot*, Mar. *Prune* off points of shoots in spring to induce bushy growth. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar., 40° to 45°; Mar. to Sept. 55° to 65°. *Place* plants outdoors in sunny position June to Sept. *Culture of Perennials: Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct. or Ap. *Propagate* shrubby species by seeds sown $\frac{1}{8}$ in. deep in light soil in temp. 75° in Mar., or by cuttings inserted in well drained pots of sandy soil under bell-glass in temp. 55° in Mar., Ap. or May; perennials by seeds sown $\frac{1}{8}$ in. deep outdoors in Ap., or division of roots in Oct.

Corn Centaury (*Centaurea cyanus*)—see Centaurea.

Corokia.—*Ord.* Cornaceæ. Half-hardy evergreen trailing shrub. *Nat.* New Zealand. *Int.*, date unknown. *Species* cultivated, 1. *Flowers*, yellow, fragrant; sum. *Soil*, good ordinary. *Position*, sheltered against south or west wall. *Plant*, Oct to Ap. *Propagate* by cuttings inserted in sand in well drained pan under bell-glass; layering shoots in Oct.

Coronation Plant (*Dianthus caryophyllus*)—see Dianthus.

Corooka Oil-plant (*Argemone mexicana*)—see Argemone.

Correa (South Australian Fuchsia).—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* S. Australia. *Int.* 1793. *Ht.* 3 to 10 ft. *Species* cultivated, 3; varieties several. *Flowers*, white, scarlet, crimson, green; Nov. to Mar. *Compost*, two parts peat, one part fibrous loam & sand. *Position*, pots well drained in light, airy greenhouse. *Repot* in July when new growth begins. *Prune* directly after flowering. *Water* moderately Ap. to July & Oct. to Ap., freely July to Oct. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept., 55° to 65°. *Place* plants outdoors in sunny position July to Sept. *Propagate* by cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75° in Ap.; grafting on *Correa alba* or *Eriostemon buxifolia* in Mar.

Corsican Dwarf Pine-tree(*Pinus laricio var. pygmæa*)—see Pinus.

Corsican Pine-tree (*Pinus* (*laricio*)—see Pinus.

Corsican Stonecrop (*Sedum corsicum*)—see Sedum.

Corsican Thyme (*Thymus corsicus*)—see Thymus.

Cortean Pine-tree (*Pinus pinaster var. minor*)—see Pinus.

Cortusa (Swiss Sanicle, Bear's-ear Sanicle, Downy Sanicle).—*Ord.* Primulaceæ. Hardy perennial alpine plants. *Nat.* Swiss Alps, Siberia, Transylvania. *Int.* 1596. *Ht.* 6 to 12 in. *Species* cultivated, 1; varieties, 2. *Flowers*, purple; May to June. *Soil*, sandy peat. *Position*, shady border or rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in cold frame in Mar. or Aug.; division of plant in Mar.

Cortusa-leaved Primrose (*Primula cortusoides*)—see Primula.

Coryanthes (Helmet-flower, Helmet-orchid).—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Caraccas, Brazil, Demerara. *Int.* 1829. *Species* cultivated, 3. *Flowers*, orange, yellow, purple, crimson; Ap. to July. *Compost*, equal parts peat & sphagnum moss. *Position*, baskets suspended from roof of stove. *Re-basket* in Mar. *Water* freely Ap. to Sept., very little afterwards. *Temp.*, Ap. to Aug. 65° to 85°; Aug. to Ap. 50° to 65°. *Growing* season. Ap. to Aug. *Resting period*, Aug. to Ap. *Propagate* by division of plant in Mar.

Corydalis (Golden, Solid-rooted, Pale, Great-flowered, Marchall's, Ledebour's Fumewort, Hollow-root, Hollow Leek, Hollow-wort, Stagger-weed, Turkey Corn, Turkey Pea, Colic-weed).—*Ord.* Fumariaceæ. Hardy annual, biennial & perennial herbs. *Nat.* Altai, Britain, Europe, U.S. America, Tauria, Siberia, Turkestan. *Int.* (foreign species) 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 13. *Flowers*, yellow, red, purple; Ap. to July. *Soil*, ordinary, good. *Position*, well drained sunny borders, ledges of rockeries, fissures in old walls. *Plant* perennial & biennial species in Mar. *Propagate* annual species by seeds sown in Ap. where plants are to flower; biennials by seed sown in boxes of light soil in cold frame or outdoors in Ap.; perennials by seed similar to biennials, transplanting seedlings to permanent positions when large enough to handle; also by division of the plants after flowering, bulbous species by offsets in Mar.

Corylopsis. — *Ord.* Hamamelidaceæ. Hardy deciduous flowering shrub. *Nat.* Japan. *Int.* 1864. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, pale yellow, fragrant; Feb. *Soil*, sandy loam. *Position*, open, moist shrubbery. *Plant*, Oct. to Feb. *Propagate* by layering shoots in Oct.

Corylus (Constantinople Hazel, Hazel, Cob-nut, Filbert). — *Ord* Corylaceæ. Hardy deciduous shrubs. Orn. foliage & nut-bearing. *Nat.* Britain, Asia, Africa, Europe, Canada. *Int.* (foreign species) 1666. *Ht.* 4 to 20 ft. *Species* cultivated, 3; varieties many. *Flowers*, male—grey, female—crimson; Mar., Ap. *Nuts* ripe in Oct. *Soil*, rich loam, well manured & deeply trenched. *Position*, open, sunny. *Plant* cob & hazel nuts 10 ft. apart each way, & filberts 15 ft. apart, in Oct. *Prune* end of Mar., cutting away shoots not less than two years old & shortening those of previous year's growth about one-third. *Train* each tree to have six main branches only. *Gather* nuts when husk becomes brown. *Hang* branches of hazel catkins (male flowers) in filbert bushes in Mar., if filbert catkins are scarce, to ensure fertilization. *Propagate* by seed (nuts) sown 2 in. deep in Oct. in open garden, transplanting seedlings two years afterwards; suckers removed from base of old plants replanted in Oct.; layering strong young shoots in Nov.; grafting on seedlings of Constantinople Nut in Mar. to form standards, half standards, & dwarf standards.

Corymbose Fuchsia (*Fuchsia corymbiflora*)—see Fuchsia.

Corypha (Cabbage Palm, Cabbage-tree). — *Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Java, India, Ceylon. *Ht.* 5 to 100 ft. *Species* cultivated, 2. *Leaves*, fan-shaped, deep green. *Compost*, two parts peat, one part loam & silver sand. *Position*, pots in moist plant stove. *Repot*, Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° to 90° in Mar. or Ap. For culture of *Corypha australis*, see *Livistonia.*

Cos Lettuce (*Lactuca sativa*)—see Lactuca.

Cosford Nut (*Corylus Avellana var. tenuis*)—see Corylus.

Cosmos (Purple Mexican Aster).—*Ord.* Compositæ. Hardy annuals & perennials. *Nat.* Mexico. *Int.* 1799. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, rose, purple, scarlet; July to Oct. *Soil*, ordinary. *Position*, warm, dryish border. *Plant* perennial species out in Ap.; lift & store roots similar to dahlias in Sept. *Propagate* annual species by seeds sown in light soil in temp. of 65° to 70° in Mar., transplanting seedlings outdoors in May; perennials by seeds in similar manner, or division of tuberous roots in Ap.

Cost (*Tanacetum balsamita*)—see Tanacetum.

Cotoneaster (Quince-leaved Medlar, Rose Box).—*Ord.* Rosaceæ. Hardy evergreen & deciduous shrubs, bearing scarlet fruits in winter. *Nat.* Britain, Europe, Nepaul, Kashmir, Himalayas. *Int.* (foreign species) 1824. *Ht.* 1 to 15 ft. *Species* cultivated, 5 deciduous, 8 evergreen. *Flowers*, pink, white: May. *Fruit*, scarlet berries, borne in winter. *Soil*, ordinary. *Position*, shrubberies, open, or in shade, trailing species against walls or growing over tree roots & rocks, or bare ground under trees. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep outdoors in Mar.; cuttings inserted in sandy soil outdoors in Oct.; layering shoots in Oct.; grafting on common species, quince, or hawthorn in Mar.

Cotton-plant (*Gossypium herbaceum*)—see Gossypium.

Cotton Thistle (*Onopordon acanthium*)—see Onopordon.

Cotton-tree (*Populus heterophylla* & *Viburnum lantana*)—see Populus & Viburnum.

Cotton-weed (*Antennaria dioica*)—see Antennaria.

Cotton-wood (*Populus Fremonti*)—see Populus.

Cotyledon (Navelwort, Kidneywort, Penny-grass, Pennywort, Hipwort, Corn-leaves).—*Ord.* Crassulaceæ. Greenhouse & hardy evergreen succulent plants. *Nat.* Cape of Good Hope, California, Mexico, Cilicia, Altai, Britain, Candia, Siberia, China, Africa. *Int.* (foreign species) 1690. *Ht.* 6 in. to 4 ft. *Species* cultivated, 42. *Flowers*, white, red, yellow, scarlet; May to Dec. *Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, pots well drained, close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely Mar. to Sept., very little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 60° to 70°. *Hardy species* plant in ordinary soil on sunny rockeries, Mar. to June. *Greenhouse species* can be grown outdoors in beds, June to Sept. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar, ; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept., or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Countryman's Treacle (*Ruta graveolens*)—see Ruta.

Country Pepper (*Sedum acre*)—see Sedum.

Courtship-and-Matrimony (*Spiræa ulmaria*)—see Spiræa.

Coventry Bells (*Campanula medium* & *C. pulsatilla*)—see Campanula.

Coventry Rapes (*Campanula medium*)—see Campanula.

Coven-tree (*Viburnum lantana*)—see Viburnum.

Cow Basil (*Saponaria vaccaria*)—see Saponaria.

Cow-bell (*Silene inflata*)—see Silene.

Cow-berry (*Vaccinum vitis idæa*)—see Vaccinum.

Cow Parsley (*Heracleum giganteum*)—see Heracleum.

Cow Parsnip (*Heracleum giganteum*)—see Heracleum.

Cowslip-scented Orchid (*Vanda furva*)—see Vanda.

Cowslip-scented Tulip (*Tulipa ilyensis*)—see Tulipa.

Crab's Eyes (*Abrus precatorius*)—see Abrus.

Crambe (Heart-leaved Colewort, Shrubby Colewort, Sea Cabbage, Seakale).—*Ord.* Cruciferæ. Hardy herbaceous perennials & esculent vegetable. *Nat.* Britain, Caucasus, Iberia, Europe. *Int.* (foreign species) 1789. *Ht.* 18 in. to 6 ft. *Species* cultivated, 3. *Flowers*, white; May to July. *Culture of perennials: Soil*, ordinary, rich. *Position*, open borders. *Plant* roots 3 in. deep in groups of three or six in Mar. *Culture of Seakale: Soil*, deep, rich, sandy. *Position*, open, sunny. *Trench* soil 2 ft. deep in autn., burying in abundance of manure. *Plant* roots 4 to 6 in. long, 2 in. deep, uprightly, 18 in. apart in rows 30 in. asunder in Feb. or Mar. *Pare off* crown buds before planting. *Mulch* beds with stable manure in Ap. *Apply* common salt at the rate of 1 lb. to a square rod, or 2 lbs. of nitrate of soda to same area in June. *Lift* & replant every five years. *Manure* & dig between rows in Nov. *Blanching:* Cover roots in open ground with inverted pots, dry tree leaves, or cinder ashes in Nov. *Forcing outdoors:* Cover roots with inverted pots in Nov. & put thick layers of fresh manure & leaves on these in Jan. *Forcing indoors: Lift* roots in Nov., Dec. or Jan. & place them close together in large pots or boxes, with ordinary soil between, in temp. 50° to 60°. *Keep* roots moist & dark. *Roots* of no value after forcing. *Propagate* seakale by seed sown 1 in. deep in rows 12 in. apart in Mar., thinning seedlings to 6 in. apart in June & transplanting them to permanent beds when a year old, or by cuttings of roots as advised for planting; perennials by seeds sown ½ in. deep outdoors in Mar., transplanting seedlings in July; cuttings of shoots or division of roots in Mar.

Crape Myrtle (*Lagerströmia indica*)—see Lagerströmia.

Cratægus (May, Hawthorn, Quick, Black Thorn, White Thorn, Glastonbury Thorn, Christ's Thorn, Evergreen Fire Thorn, Fire Bush, Egyptian Thorn).—*Ord.* Rosaceæ. Hardy deciduous & evergreen trees & shrubs. *Nat.* Britain, S. Europe, Levant, S. & N. America. *Int.* (foreign species) 1629.

Species cultivated, 25 deciduous, 1 evergreen; varieties several. *Ht.* 6 to 20 ft. *Flowers*, white, red, scarlet, single & double; May & June. *Soil*, ordinary, rich. *Position*, trees & shrubs in woods, shrubberies, lawns, & pleasure grounds; evergreen species against east or north walls; common quick in hedges. *Plant*, Oct. to Feb. *Prune* evergreen fire thorn in Feb., cutting away shoots that have borne berries only; deciduous kinds in Nov., simply cutting tree or shrub into shape where necessary. *Hedges: Soil*, ordinary, trenched 2 ft. deep & 2 ft. wide. *Plant*, Nov. to Mar. *Distance apart:* 4 in. single row, 6 in. double row 6 in. asunder. *Quantity of plants* required per yard for single row, 9; double row, 12. *Pot culture:* Double pink & white kinds adapted for pot culture in cool greenhouse, or for forcing. *Pot*, Oct. or Nov., in good soil. *Water* moderately Oct. to Mar., freely afterwards. *Keep* plants in cool structure till Jan., then place in temp. 55° to 65° to flower early or leave them in cool house to flower naturally. *After flowering*, place plants outdoors to make new growth. *Propagate* by seeds (berries) sown 1 in. deep in open garden in Nov., transplanting largest seedlings following Oct., the remainder the next year; budding choice varieties on common hawthorn in July; grafting similarly in Mar. *Berries* require to be stored in sand for a year before sowing.

Cratægus-like Barberry (*Berberis cratægina*)—see Berberis.

Crawfurdia (Climbing Gentian).—*Ord.* Gentianaceæ Half-hardy climbing herbs. *Nat.* Himalayas. *Int.* 1855. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, purple, green; Aug. *Compost*, equal parts loam, peat & sand. *Position*, against south wall S. of England, pots in greenhouse otherwise. *Plant*, May *Pot*, Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seed sown in light soil in temp. 65° to 70° in Mar.; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 75° in sum.

Crassula (Thick-leaf)—*Ord.* Crassulaceæ. Greenhouse & hardy shrubby evergreen plants. *Nat.* Abyssinia, Cape of Good Hope, Himalayas. *Int.* 1710. *Ht.* 6 in. to 8 ft. *Species* cultivated, 12. *Flowers*, white, red, rose scarlet, fragrant; Ap. to Dec. *Compost*, equal parts sandy loam, brick rubble, dried cow manure & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Pinch* off the points of long shoots of C. coccinea & jasminiflora in June or July. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.* Mar to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Cream-coloured Gentian (*Gentiana gelida*)—see Gentiana.

Creamy-flowered Primrose (*Priamul involucrata*)—see Primula.

Creeping Avens (*Geum reptans*)—see Geum.

Creeping Club Moss (*Selaginella apus*)—see Selaginella.

Creeping Fig-tree (*Ficus repens*)—see Ficus.

Creeping Forget-me-not (*Omphalodes verna & Myosotis repens*)—see Omphalodes & Myosotis.

Creeping Jack (*Sedum acre*)—see Sedum.

Creeping Jenny (*Lysimachia nummularia*)—see Lysimachia.

Creeping Money-flower (*Mimulus repens*)—see Mimulus.

Creeping Phlox (*Phlox reptans*)—see Phlox.

Creeping-rooted Barberry (*Berberis repens*)—see Berberis.

Creeping Sailor (*Saxifraga sarmentosa*)—see Saxifraga

Creeping Saxifrage (*Saxifraga sarmentosa*)—see Saxifrage.

Creeping Speedwell (*Veronica repens*)—see Veronica.

Creeping St. John's-wort (*Hypericum repens*)—see Hypericum.

Creeping Water-cress (*Nasturtium sylvestre*)—see Nasturtium.

Creeping Willow (*Salix repens*)—see Salix.

Creeping Winter Green (*Gaultheria procumbens*)—see Gaultheria.

Creeping Wormwood (*Artemisia repens*)—see Artemisia.

Crepis (Hawk's Beard).—*Ord.* Compositæ. Hardy herbaceous perennials & annuals. *Nat.* Mountains of S. Europe. *Int.* 1632. *Ht.* 4 to 12 in. *Species* cultivated, 1 perennial, 1 annual. *Flowers*, orange, red; Sept. & Oct. *Soil*, ordinary, sandy. *Position*, sunny borders, banks, or rockeries. *Plant* perennial species in Mar. or Ap. *Propagate* annual species by seeds sown ¼ in. deep in Ap. where plants are required to flower; perennial species by seeds sown ¼ in. deep outdoors in Ap., transplanting seedlings in July, or by division of roots in Mar. or Ap.

Crest Marine (*Crithmum maritinum*)—see Crithmum.

Crested Beech (*Fagus sylvatica var. cristata*)—see Fagus.

Crested Gentian (*Gentiana septemfida*)—see Gentiana.

Crested Shield Fern (*Lastræa cristata*)—see Lastræa.

Cretan Mullein (*Celsia cretica*)—see Celsia.

Cretan Rock Rose (*Cistus creticus*)—see Cistus.

Cretan Rose (*Rosa glutinosa*)—see Rosa.

Cretan Spikenard (*Valeriana Phu*)—see Valeriana.

Crimean Ivy (*Hedera helix taurica*)—see Hedera.

Crimean Rose (*Rosa taurica*)—see Rosa.

Crimean Sea Lavender (*Statice taurica*)—see Statice.

Crimean Snowdrop (*Galanthus plicatus*)—see Galanthus.

Crimean Speedwell (*Veronica taurica*)—see Veronica.

Crimean Squill (*Scilla taurica*)—see Scilla.

Crimson-anthered Lily (*Lilium Szovitzianum*)—see Lilium.

Crimson Corn Flag (*Schizostylis coccinea*)—see Schizostylis.

Crimson Everlasting (*Gnaphalium sanguineum*)—see Gnaphalium.

Crimson-flowered Californian Hyacinth (*Brodiæa coccinea*)—see Brodiæa.

Crimson-flowered Flax (*Linum grandiflorum*)—see Linum.

Crimson-flowered Starwort (*Aster coccineus*)—see Aster.

Crimson-leaved Japanese Maple (*Acer polymorphum atro-purpureum*)—see Acer.

Crimson Passion-flower (*Passiflora kermesina*)—see Passiflora.

Crimson Satin-flower (*Brodiæa coccinea*)—see Brodiæa.

Crimson Silver Fir (*Picea Nordmanniana*)—see Picea.

Crimson Stonecrop (*Sedum spurium*)—see Sedum.

Crinum (Brazil Lily, Cape Lily, Murray Lily, Cape Coast Lily, Large African Lily, Queensland Lily).—*Ord.* Amaryllidaceæ. Stove, greenhouse, & hardy deciduous bulbous plants. *Nat.* Australia, America, India, Mauritius, Sumatra, Socotra, Africa, Asia, Old Calabas, Fernando Po. *Int.* 1732 *Ht.* 1 to 3 ft. *Species* cultivated, 20 stove, 6 greenhouse, & 1 hardy. *Culture of stove & greenhouse species: Compost*, two parts turfy loam, one part peat & silver sand. *Position*, pots in light plant stove or greenhouse. *Pot*, Mar., in large pots or tubs well drained. *Water* freely Mar. to Oct., very little afterwards. *Store* pots containing bulbs on their sides in stove or greenhouse during winter. *Repot* every 3 or 4 years. *Apply* liquid manure to established bulbs in sum. *Temp.*, Mar. to Sept. 75° to 85° for stove, 55° to 60° for greenhouse; Sept. to Mar. 55° to 65° for stove, 45° to 50° for greenhouse. *Culture of hardy species: Soil*, rich, deep. *Position*, south, well drained border. *Plant* bulbs 6 in. deep in Mar. *Protect* in winter by covering with cinder ashes or leaves. *Water* freely in sum. *Propagate* by seeds sown 1 in. deep singly in 3 in. pots of sandy soil in temp. 85° in Mar.; offsets inserted singly in pots of sandy soil in Mar. *Seedling* plants take several years to flower.

Crisped Hart's-tongue Fern (*Scolopendrium vulgare*)—see Scolopendrium.

Crithmum (Samphire-crest Marine, Peter's Cress, Sea Fennel.—*Ord.* Umbelliferæ. Hardy perennial herb. *Nat.* Britain. *Ht.* 8 in. *Species* cultivated, 1. *Flowers*, white; June to July. *Soil*, sandy. *Position*, sunny rockery. *Plant*, Mar. *Protect* with leaves in winter. *Propagate* by seeds sown in sandy soil in cold frame in Sept. or Oct.; division of roots in Mar.

Crocosmia.—*Ord.* Iridaceæ. Hardy bulbous perennial. *Nat.* Africa. *Int.* 1846. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, orange-red; July to Oct. *Outdoor culture: Soil*, light, rich, sandy. *Position*, well-drained south border. *Plant* bulbs, Sept. or Oct., 6 in. deep & 4 in. apart, surrounding each bulb with an inch of sand & protecting during winter with a covering of dry leaves or ashes. *Lift* & replant every three years. *Pot culture: Compost*, equal parts turfy loam, peat, leaf-mould & silver sand. *Position*, cold frame or greenhouse. *Pot*, Oct., placing six bulbs 1 in. deep in a 5-in. pot, well drained, with an inch of decayed cow manure over drainage. *Water* when new growth commences, afterwards keep moderately moist until foliage dies down, then keep dry. *Propagate* by seeds sown ⅛ in. deep in well drained pans or boxes filled with sandy soil in cold greenhouse in Sept. or Oct.; offsets in Oct.

Crocus.—*Ord.* Iridaceæ. Hardy deciduous bulbous flowering plants. *Nat.* Britain, Greece, Tuscany, Transylvania, Asia, Crete, Crimea, Morea, Europe, Maritime Alps, Caucasus, Georgia, Ala Tau Mountains, Italy. *Int.* (foreign species) 1605. *Ht.* 2 to 4 in. *Species* cultivated, 18; varieties many. *Flowers*, various; Feb., Mar., Sept., Oct. & Nov. *Outdoor culture: Soil*, light, rich. *Position*, margins of beds or borders or in grass plots & lawns, open or in shade, for common sorts; sunny well drained beds, or on rockeries, for rare & choice kinds. *Plant* spring-flowering species & varieties in Oct., Nov., or Dec.; autumn-flowering species in Aug. & Sept. *Depth & distance:* Common kinds, 3 in.; choice & rare sorts, 2 in. *Leave* corms undisturbed for four or five years, unless their place is wanted for other plants. *Lift* when necessary in June or July, drying corms in sun & storing in cool room till planting time. *Foliage* should not be removed until it turns yellow. *Culture in grass: Bore* holes 3 in. deep & 2 in. apart, insert a corm in bottom of each, then fill up with ordinary soil. Grass should not be cut till foliage turns yellow. *Pot culture: Compost*, light, rich, sandy soil. *Position*, 3 or 5-in. pots in window, greenhouse, or frame. *Plant* six corms, 1 to 2 in. deep, in a 5-in. pot, or four in a 3-in. size, in Oct., Nov., or Dec. *After potting*, place pots in cold frame or under a wall & cover with cinder ashes till growth begins, then remove to greenhouse, etc. *Water* freely when growth begins; give less as foliage fades. *Corms* of no use for flowering second time in pots, but may be planted out in garden. *Forcing:* Place in temp. 55° to 65° in Dec. or Jan. *Propagate* by seeds sown ⅛ in. deep & 1 in. apart in light sandy soil in cold frame in Sept., Oct., or Nov., transplanting seedlings in Aug. of second year; offsets removed from old corms in July or Aug. & replanted 2 in. deep & 2 in. apart at same time. *Seedling corms* flower when three & four years old.

Croneberry (*Vaccinium oxycoccos*)—see Vaccinium.

Crop-weed (*Centaurea nigra*)—see Centaurea.

Crossandra.—*Ord.* Acanthaceæ. Stove evergreen flowering shrub. *Nat.* Trop. Africa, E. Indies. *Int.* 1877. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, lilac, orange; Sept. & Oct. *Compost*, equal parts loam, peat & sand. *Position*, pots in moist plant stove. *Pot*, Mar. *Water* moderately during winter, freely other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct.

75° to 85°. *Propagate* by cuttings of shoots 2 or 3 in. long, inserted in sand under bell-glass, in temp. of 85° at any time of year.

Cross-bine (*Bignonia capreolata*)—see Bignonia.

Cross-leaved Phlox (*Phlox decussata*)—see Phlox.

Cross-leaved St. John's-wort (*Hypericum decussatum*)—see Hypericum.

Cross of Jerusalem (*Lychnis chalcedonica*)—see Lychnis.

Croton Oil-plant (*Croton Tiglium*)—see Codiæum.

Crow-bells (*Scilla nutans*)—see Scilla.

Crowea.—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* W. Australia, N. S. Wales. *Int.* 1700. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, red, pink; June to Sept. *Compost*, two parts peat, one fibrous loam, & little sand. *Position*, pots in light airy greenhouse. *Pot*, Mar. or Ap. *Prune* straggling shoots into shape in Mar. *Water* very little Oct. to Mar., moderately Mar. to Oct. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings inserted in sand under bell-glass in temp. of 65° to 75° in Mar. or Ap.; grafting on *Correa alba* or *Eriostemon buxifolia* in Mar.

Crow-flower (*Lychnis Flos-cuculi*)—see Lychnis.

Crow Soap (*Saponaria officinalis*)—see Saponaria.

Crown Daisy (*Chrysanthemum coronarium*)—see Chrysanthemum.

Crown Imperial (*Fritillaria imperialis*)—see Fritillaria.

Crown-of-thorns (*Medicago echinus*)—see Medicago.

Crown Vetch (*Coronilla varia*)—see Coronilla.

Crucianella (Cross-wort, Petty Cross-wort, Sea Cross-wort, Large Style Cross-wort).—*Ord.* Rubiaceæ. Hardy herbaceous perennials. *Nat.* Persia, Asia, Mediterranean. *Int.* 1640. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, cream, fragrant; July & Aug. *Position*, dry banks, rockeries, or borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown outdoors in Mar., transplanting seedlings to permanent positions in July or Aug.; division of roots in Mar., Ap., Oct. or Nov.

Crusted-leaved Saxifrage (*Saxifraga crustata*)—see Saxifraga.

Cryptanthus.—*Ord.* Bromeliaceæ. Stove & evergreen perennials; flowering & orn. foliage. *Nat.* Brazil, Trop. America. *Int.* 1826. *Ht.* 6 to 9 in. *Species* cultivated, 3. *Flowers*, white; Feb. to May. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Pot*, Mar. *Water* freely always; good drainage essential. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 85°. *Propagate* by large-sized offsets inserted singly in small pots in temp. of 85° in Ap.

Cryptogramme—modern name for *Allosorus*—see Allosorus.

Cryptomeria (Japanese Cedar, Lobb's Cryptomeria).—*Ord.* Coniferæ. Hardy evergreen coniferous trees. Orn. foliage. *Nat.* Japan. *Int.* 1844. *Ht.* 20 to 100 ft. *Species* cultivated, 2; varieties, 4. *Foliage* bright green in spring & sum.; bronzy crimson during winter. *Soil*, deep, rich, moist loam. *Position*, sheltered on lawns. *Plant*, Oct. to Ap. *Propagate* by seeds sown ⅛ in. deep in sandy loam in temp. of 55° in Mar. or outdoors in Ap.; cuttings of side shoots 2 or 3 in. long, inserted in sandy soil under hand-light, or in cold frame, in Sept. or Oct.

Cuban Lily (*Scilla peruviana*)—see Scilla.

Cuckoo Orchis (*Orchis mascula*)—see Orchis.

Cucumber (*Cucumis sativa*)—see Cucumis.

Cucumber Tree (*Magnolia acuminata*)—see Magnolia.

Cucumis (Cucumber, Melon, Gherkin, Water Melon, Snake Cucumber, Bitter Apple, Colocynth, Apple Cucumber, Cucumber Vine).—*Ord.* Cucurbitaceæ. Half-hardy trailing perennial fruiting plants. *Nat.* (cucumber) E. Indies, Jamaica, Africa; (melon) Asia, Himalayas. *Int.* (cucumber)

1573; (melon) 1570. *Ht.* 3 to 8 ft. *Species* cultivated, 2 cucumbers, 2 melons; varieties many. *Flowers*, yellow. *Fruit*, oblong or globular. *Culture of Cucumbers: Compost*, two parts decayed turfy loam, one part horse droppings or decomposed manure. *Position*, pots or beds in heated or cold greenhouse & frames, or in sheltered corner outdoors in sum. *Sow* seed in Feb. or Mar. for heated greenhouse or frame in sum., Ap. for cold frames or outdoors, Sept. or Oct. for winter use. *Plant*, Mar., Ap., Sept., or Oct. in heat; June in cold frames or outdoors. *Train* main shoot up roof of greenhouse, pinching out its point when 3 ft. high, also points of side (lateral) shoots at first joint beyond the young fruit; or, when grown in frames, along surface of bed, removing point of main shoot when a foot long & points of side shoots at first joint beyond young fruit. *Prune* away old shoots that cease to bear & train young ones in their stead. *Water* moderately at first, freely afterwards. *Syringe* twice daily. *Apply* liquid manure to plants bearing heavy crops only. *Ventilate* when temp. reaches 90°, closing again when it falls below this. *Temp.*, Feb. to Sept., for greenhouse & frame, 75° to 85°; Sept. to Feb. 65° to 75°. *Shade* from hot sun. *Fertilize* first female blooms by divesting a male bloom of its petals & applying powdery parts to centre of former; fertilization not needful afterwards, except seed is wanted. *Fumigate* occasionally to destroy insects. *Culture of Gherkins: Dig* a hole in May 2 ft. deep & 3 ft. wide in a sunny position, putting soil on north side. *Fill* hole with heated manure & cover with 3 in. of soil. *Plant* at once. *Train* as advised above. *Water* moderately at first, freely afterwards. *Protect* with handlight until end of June. *Sow* seeds in light soil in temp. 55° in Ap. *Culture of Melons: Compost*, three parts good turfy loam, one part decayed manure. *Position*, beds in greenhouses, pits, or frames, with shoots trained to roof or along surface of ground. *Plant*, Mar., Ap. or May. *Sow* seeds singly in 2-in. pots in temp. 75° in Feb. or Mar. *Pinch* out point of main shoot when 6 in. long, also of lateral shoots when 1 ft. long, & further shoots at the first joint beyond the young swelling fruit. *Fertilize* all the female blooms about 12 a.m. as directed for cucumbers. Allow one fruit to each shoot, removing any others gradually. *Prune* away any weak shoots not showing fruit. *Water* moderately at first, freely afterwards, less when fruit changes colour. *Syringe* twice daily until fruit begins to ripen, then cease. *Shade* from hot sun. *Apply* liquid manure when fruit begins to swell. *Temp.*, Mar. to time fruit is ripe, 75° to 85°. *Ventilate* when temp. reaches 85°, close when it falls below this. *Propagate* by seeds sown in light soil in temp. 75° in Mar., Ap., May or Sept.; cuttings of shoots 3 in. long, inserted singly in small pots of light soil, in temp. 75° to 80° at any time.

Cucurbita (Gourd, Pumpkin, Squash, Vegetable Marrow).—*Ord.* Cucurbitaceæ. Half-hardy trailing annual edible or orn. fruited plants. *Nat.* India, Levant. *Int.* 1570. *Ht.* 3 to 16 ft. *Species* cultivated, about 4; varieties many. *Flowers*, yellow, male & female distinct. *Fruit*, globular, oval, or oblong. *Culture of Marrows & Pumpkins: Soil*, ordinary, rich. *Position*, beds in frames, on heaps of decayed manure or refuse, or on banks, the shoots running down the slope. *Sow* seeds in a temp. of 55° in Ap., or where the plants are intended to grow in May. *Plant*, May, under handlight, or in June without protection. *Beds* in open garden formed by digging out soil 15 in. deep, filling holes with heated manure & covering this with soil. *Pinch* out points of main shoots when 18 in. long; no pinching required afterwards. *Fertilize* first female blooms; not later ones. *Water* freely in dry weather. *Apply* liquid manure frequently after fruit is set. *Fruit* for preserving should be cut when yellow & then hung up in a dry room till wanted for use. Young shoots of marrows & gourds may be used as a substitute for spinach. *Culture of Gourds: Soil*, rich, ordinary. *Position*, beds at base of low, sunny fences or walls, or on the summit of banks, shoots growing at will up & over the former or down the latter; sunny. *Plant*, June. *Water* freely in dry weather. *Apply* liquid manure occasionally when plants are laden with fruit.

Gather fruit when yellow, & hang it up till wanted for use in dry room. *No* pinching of shoots required. *Propagate* by seeds sown ½ in. deep in light soil in temp. 55° to 65° in Ap., or where plants are to grow in May & June.

Cull-me-to-you (*Viola tricolor*)—see Viola.

Cultivated Olive-tree (*Olea sativa*)—see Olea.

Culverkeys (*Scilla nutans* & *Primula variabilis*)—see Scilla & Primula.

Cunonia (Red Alder).—*Ord.* Saxifragaceæ. Greenhouse evergreen flowering tree. *Nat.* Cape of Good Hope. *Int.* 1816. *Ht.* 10 to 50 ft. *Species* cultivated, 1. *Flowers*, white; Aug. *Compost*, equal parts sandy loam & peat. *Position*, pots in light airy greenhouse. *Pot*, Mar. *Prune* into shape in Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. of 65° to 75° in sum.

Cupania (West Indian Chestnut).—*Ord.* Sapindaceæ. Stove orn. foliage evergreen tree. *Nat.* S. America, W. Indies. *Int.* 1818. *Ht.* 20 to 30 ft. *Species* cultivated, 1. *Flowers*, yellow; Mar. *Compost*, equal parts loam & peat. *Position*, pots in moist plant stove. *Pot*, Mar. *Water* moderately in winter, freely other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. of 85° in sum.

Cup Fern (*Cyathea arborea*)—see Cyathea.

Cup Goldilocks (*Trichomanes radicans*)—see Trichomanes.

Cuphea (Mexican Cigar Flower).—*Ord.* Lythraceæ. Greenhouse evergreen flowering plant. *Nat.* Mexico. *Int.* 1845. *Ht.* 10 to 12 in. *Species* cultivated, 1. *Flowers*, scarlet, black, white; June to Sept. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, 5 or 6 in. pots in greenhouse, or in beds outdoors in sum. *Pot* Mar. or Ap. *Plant* outdoors in June. *Water* moderately Oct. to Mar.; freely afterwards. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown in light soil in temp. 65° to 75° in Mar.; cuttings of young shoots inserted in sandy soil in temp. 65° to 75° in Mar., Ap., or Aug.

Cupidone (*Catananche cœrulea*)—see Catananche.

Cupid's-flower (*Quamoclit vulgaris*)—see Quamoclit.

Cupressus (Cypress, Ginger Pine, Oregon White Cedar, Orford Cedar, White Cedar).—*Ord.* Coniferæ. Hardy evergreen coniferous trees. Orn. foliage. *Nat.* California, China, Mexico, S. Europe, Himalayas. *Int.* 1548. *Ht.* 4 to 100 ft. *Species* cultivated, 11; varieties, 26. *Habit*, upright, spreading & pendulous. *Leaves*, small, dark green or glaucous; variegated yellow & white. *Soil*, deep rich loam. *Position*, sheltered on lawns or in shrubberies. *Plant*, Sept., Oct. or Nov. *Propagate* by seeds sown ½ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors a year afterwards; cuttings of young branchlets 2 in. long, inserted in sandy soil in cold frame, or under handlight, in Sept. or Oct.

Cups-and-Saucers (*Cobœa scandens*)—see Cobæa.

Curculigo (Weevil-plant).—*Ord.* Amaryllidaceæ. Stove orn. evergreen foliage plants. *Nat.* E. Indies. *Int.* 1805. *Ht.* 1 to 3 ft. *Species* cultivated, 1; varieties, 2. *Leaves*, strap-like, recurved, dark green, variegated with white. *Compost*, equal parts lumpy peat & loam, & little silver sand. *Position*, pots in moist plant stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by suckers inserted in small pots of sandy soil in temp. 85° in Mar.

Curcuma (Turmeric, East Indian Arrowroot).—*Ord.* Scitaminaceæ. Stove herbaceous perennials. *Nat.* Australia, E. Indies, Ceylon. *Int.* 1759. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, white, yellow, red, scarlet;

May to Nov. *Compost*, two parts peat, one part loam, & little sand. *Position*, pots in plant stove. *Pot*, Feb. or Mar. *Water* freely Ap. to Oct., very little afterwards. *Temp.*, Oct. to Feb. 55° to 65°; Feb. to Oct. 75° to 85°. *Leaves* die off after Oct. & re-appear in Feb. *Propagate* by division of roots in Feb. or Mar.

Curled-leaved Box Elder (*Acer Negundo crispum*)—see Acer.

Curled-leaved Elm (*Ulmus montana var. crispa*)—see Ulmus.

Curled-leaved Rockrose (*Cistus crispus*)—see Cistus.

Curled-leaved St. John's-wort (*Hypericum crispum*) -- see Hypericum.

Curled Maple (*Acer saccharinum*)—see Acer.

Curled Rock Brake Fern (*Allosorus crispus*)—see Allosorus.

Curly Palm (*Kentia Belmoreana*)—see Kentia.

Currant (*Ribes nigrum & rubrum*).—*Ord.* Grossulariaceæ. Hardy deciduous fruiting shrubs. *Nat.* Britain, Europe. *Ht.* 4 to 5 ft. *Species* cultivated, 2; varieties, 15. *Flowers*, green; Ap. *Fruit*, white, red & black. *Soil*, deep rich loam. *Position*, open garden or against walls & fences. *Plant* bushes 5 ft. apart each way in open garden; 3 ft. apart against walls. *Time to plant*, Oct. to Feb. *Depth for roots*, 4 to 6 in. *Mode of bearing:* Red & white currants bear fruit at base of shoots of previous year's shoots, also on old spurs; black currants along entire length of previous year's shoots. *Prune* red & white currants in June or July, shortening to within half an inch of base all young shoots except one at end of each branch, which cut back one third, also in Dec. cut away old or unsightly branches; black currants in Dec., simply thinning out dead or weak shoots. *Protect* fruit in June & July by covering trees with nets. *Retard* ripening by covering trees with mats or sheeting in July. *Gather* fruit in fine weather only. *Propagate* by seeds sown ¼ in. deep outdoors in Sept. or Oct.; cuttings of current year's shoots, 8 in. long, with buds on lower part rubbed off, inserted half their depth outdoors in Nov.; layering shoots in Oct. or Nov.; suckers removed & planted in Oct., Nov. or Dec.

Currant-leaved Alum-root (*Heuchera ribifolia*)—see Heuchera.

Cushion Fern (*Dicksonia culsita*)—see Dicksonia.

Cushion Pink (*Silene acaulis & Armeria maritima*)—see Silene & Armeria.

Custard Cups (*Epilobium hirsutum*)—see Epilobium.

Cut-finger (*Valeriana officinalis & Vinca major*)—see Valeriana & Vinca.

Cut-heal (*Valeriana officinalis*)—see Valeriana.

Cut-leaved Beech (*Fagus sylvatica var. incisa*)—see Fagus.

Cut-leaved Birch (*Betula populifolia var. laciniata*)—see Betula.

Cut-leaved Cone-flower (*Rudbeckia laciniata*)—see Rudbeckia.

Cut-leaved Elder (*Sambucus nigra var. laciniata*)—see Sambucus.

Cut-leaved Filbert (*Corylus Avellana var. laciniata*)—see Corylus.

Cut-leaved Lime-tree (*Tilia europæa var. laciniata*)—see Tilia.

Cut-leaved Maple (*Acer dissectum*)—see Acer.

Cut-leaved Norway Maple (*Acer platanoides var. laciniatum*)—see Acer.

Cut-leaved Persian Lilac (*Syringa persica var. laciniata*) — see Syringa.

Cut-leaved Speedwell (*Veronica incisa*)—see Veronica.

Cut-leaved Sumach (*Rhus glabra var. laciniata*)—see Rhus.

Cut-leaved Walnut-tree (*Juglans regia var. laciniata*) — see Juglans.

Cut-leaved Weeping Birch (*Betula incisa var. pendula*) — see Betula.

Cyananthus (Hoary-leaved Cyananth, Lobe-leaved Cyananth).—*Ord.* Campanulaceæ. Hardy alpine herbaceous perennials. *Nat.* Sikkim, Himalayas. *Int.* 1844. *Ht.* 3 to 4 in. *Species* cultivated, 2. *Flowers*, azure-blue, purplish blue; Aug. to Sept. *Compost*, equal parts sandy peat & leaf-mould. *Position*, sunny banks or crevices of rockeries. *Plant*, Mar. or Ap. *Protect* in severe weather with ashes or leaves. *Propagate* by cuttings of shoots 2 in. long inserted in sandy peat, in Ap., May, or June, & kept under bell-glass; division of fleshy roots in Mar. or Ap.

Cyanella.—*Ord.* Liliaceæ. Half-hardy bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1768. *Ht.* 10 to 12 in. *Species* cultivated, 3. *Flowers*, purple, yellow, rose, fragrant; July to Aug. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure. *Position*, pots 4½ in. in diameter, well drained, in cold frame or greenhouse. *Pot*, Oct., placing five bulbs 2 in. deep in each pot, & covering pots with cocoanut-fibre refuse until growth begins. *Water* moderately when bulbs begin to grow; keep bulbs dry Sept. to Jan. *Propagate* by offsets in Nov.

Cyanophyllum. — *Ord.* Melastomaceæ. Stove evergreen orn. foliaged plants. *Nat.* Brazil, Mexico. *Int.* 1858. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Leaves*, broad, upper surface velvety green, under side reddish purple. *Compost*, equal parts fibrous peat & leaf-mould, fourth part silver sand. *Position*, pots in moist shady plant stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Syringe* foliage Mar. to Sept. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by seeds sown in fine light compost in temp. 85° in Mar. or Ap.; cuttings of shoots of stems inserted in light soil in temp. 85° to 90° in spring.

Cyathea (Tasmanian Cup Fern, Silvery Tree Fern, Black-stemmed Tree Fern, Grey Tree Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* W. Indies, New Zealand, Natal, Ceylon, Mauritius, Philippine Islands. *Int.* 1793. *Ht.* 5 to 20 ft. *Species* cultivated, 8 stove & 4 greenhouse. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs, well drained, in shady stove, greenhouse, or conservatory. *Repot*, Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse; Mar. to Sept. 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans; cover with sheet of glass, & keep moist in shady position in temp. 75° to 85°.

Cycas (Sago Palm, Fern Palm).—*Ord.* Cycadaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* China, E. Indies, Australia, N. S. Wales. *Ht.* 3 to 7 ft. *Species* cultivated, 4. *Fronds* feathery shaped, dark green. *Compost*, two parts turfy loam, one part silver sand. *Position*, well drained pots in moist plant stove. *Repot*, Feb. & Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 75° to 80°; Sept. to Mar. 55° to 65°. *C. revoluta* may be stood outdoors in sheltered position from June to Sept. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° to 90° in Mar. or Ap.; suckers obtained from base of plants inserted in small post in temp. 80° to 85° at any time.

Cyclamen (Apple of the Earth, Mitre-flower, Bleeding Nun, Sowhead).—*Ord.* Primulaceæ. Hardy & greenhouse perennial flowering plants. Tuberous-rooted. Deciduous. *Nat.* Algeria, Asia, Caucasus, Greece, Palestine, Europe, Syria. *Int.* 1596. *Ht.* 3 to 12 in. *Species* cultivated, 9; varieties many. *Flowers*, white, rose, purple, fragrant; Aug. to Nov., Feb. to Ap. *Culture of Greenhouse species: Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in greenhouse Sept. to May; cold frame other times. *Repot*, July or Aug.; corm to be above surface of soil. *Water* moderately until new growth begins, then increase supply, decreasing it when plants have ceased to flower; keeping roots dry & cool May to July. *Apply*

liquid manure when in flower. *Temp.*, Sept. to Ap. 50° to 55°. *Corms* should not be grown for more than two years. Best results obtained from seedling plants one year old. *Shade* from sun essential. *Culture of Hardy species: Soil*, rich, friable loam containing plenty of leaf-mould. *Position*, sheltered partially shady nooks of rockery or in turf under trees. *Plant*, Aug. or Sept., 2 or 3 in. apart & 1½ in. deep. *Top-dress* with cow manure & rich soil annually after leaves die down, first removing old soil as far as corms. *Propagate* greenhouse kinds by seed sown ¼ in. deep & 1 in. apart in well drained pans of light soil in temp. 55° in Nov. or Feb.; hardy species by seeds sown similarly in cold frame in Oct. or Nov., transplanting seedlings following spring. *Cover* surface of soil in seed pans with layer of moss to keep soil uniformly moist.

Cyclamen-flowered Daffodil (*Narcissus cyclamineus*)—see Narcissus.

Cyclamen-leaved Windflower (*Anemone palmata*)—see Anemone.

Cycnoches (Swan's-neck Orchid).—*Ord.* Orchidaceæ. Stove deciduous orchids. *Nat.* America, Demerara, Mexico, Columbia, Brazil, Guatemala. *Int.* 1830. *Ht.* 1 to 2 ft. *Species* cultivated, 11. *Flowers*, green, buff, brown, yellow, salmon, purple; June to Sept. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off; very little other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Growing period*, Feb. to Aug. *Resting period*, Sept, to Feb. *Propagate* by division of plants at potting time.

Cydonia (Japanese, Portugal, & Common Quince).—*Ord.* Rosaceæ. Hardy deciduous flowering & orn. fruiting trees & shrubs. *Nat.* China, Japan (quince), S. Europe. *Int.* 1573. *Ht.* 5 to 20 ft. *Species* cultivated, 4; variety 1. *Flowers*, scarlet, red, white; Ap. to June. *Fruit*, green, yellow; ripe in Oct. *Soil*, ordinary. *Position*, open, sunny for quince; south, east, or west walls for Japanese quince. *Plant*, Oct. to Feb. *Depth for roots*, 6 in. *Prune* Nov. or Dec., shortening current year's shoots to 1 in., except those at end of main branches, which shorten one third. *Gather* fruit in Oct. & store in cool room till yellow, then use. *Propagate* by seeds sown 1 in. deep outdoors in Nov.; cuttings of current year's shoots, with portion of old wood attached, inserted in ordinary soil outdoors in Oct.; layering shoots in Oct. or Nov.

Cymbidium.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Australia, Africa, Japan, New Caledonia, Malay, China, India, Java. *Int.* 1789. *Ht.* 2 to 3 ft. *Species* cultivated, about 18. *Flowers*, white, greenish yellow, red, purple, chocolate, fragrant; Dec. to Aug. *Compost*, equal parts rough fibry peat, sphagnum moss & sand. *Position*, pots, well drained. *Repot*, Feb. or Mar. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 65°. *Growing period*, Mar. to Aug. *Resting period*, Sept. to Feb. *Propagate* by division of plant at potting time.

Cynoglossum (Common Dog's-tongue, Gipsy flower, Wild Comfrey, Hound's-tongue).—*Ord.* Boraginaceæ. Hardy biennials & perennials. *Nat.* Britain, Europe, U.S. America. *Int.* (foreign species) 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 1 perennial, 4 biennials. *Flowers*, rose, red, white, purple, blue; June to Aug. *Soil*, ordinary. *Position*, borders, open or shady. *Plant* perennial Oct. or Mar. *Propagate* biennials by seeds sown outdoors in Mar. or Ap., transplanting seedlings to permanent positions in June or July, to flower following year; perennials by seeds similarly, or division of roots in Oct. or Mar.

Cyperus (Umbrella plant, Sweet Cyperus, Cypress-root, Galingale).—*Ord.* Cyperaceæ. Greenhouse & hardy perennials. Orn. foliage. *Nat.* Australia, Britain, Europe, Africa, W. Indies. *Ht.* 1 to 4 ft. *Species* cultivated, 3; variety 1. *Foliage*, grass-like, dark green or variegated with white. *Culture of Greenhouse species: Compost*, two parts loam, one leaf-mould & sand.

Position, pots in shady greenhouse. *Water* moderately in winter, freely other times. *Repot*, Feb. to Mar. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 55°. *Culture of Hardy species: Soil*, mud. *Position*, margins of lakes, ponds, etc. *Plant*, Oct. or Mar. *Propagate* by seeds sown in shallow boxes or pans of light soil in temp. 55° to 65° in Mar. or Ap.; division of roots in Mar. or Ap.

Cyphomandra (Tree Tomato).—*Ord.* Solanaceæ. Greenhouse evergreen orn. foliage & fruiting shrub. *Nat.* Brazil. *Int.* 1836. *Ht.* 5 to 12 ft. *Species* cultivated, 1. *Flowers*, purple, green; spring. *Fruit*, large, egg-shaped, red; ripe in Aug. & Sept. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in light sunny greenhouse. *Pot*, Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Sept. 55° to 65°. *Prune* plants into shape Mar. or Ap. *Propagate* by seeds sown ½ in. deep in light soil in temp. 75° to 85° in Mar. or Ap.; cuttings of side shoots 3 in. long inserted in sandy soil under bell-glass in temp. 75° to 80°.

Cypress Broom (*Taxodium capense*)—see Taxodium.

Cypress Oak (*Quercus pedunculata fastigiata*)—see Quercus.

Cypress-root (*Cyperus longus*)—see Cyperus.

Cypress Vine (*Quamoclit vulgaris*)—see Quamoclit.

Cypripedium (Lady's Slipper, Mocassin-flower, American Valerian, Nerve-root, Noah's Ark, Umbel).—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy orchids. *Nat.* U.S.America, Phillipines, Canada, Malacca, Moulmein, Borneo, Russia, Siberia, Java, Mexico, Japan, N. America, Asia, England, India. *Int.* (foreign species) 1731. *Ht.* 6 to 12 in. *Species* cultivated, 26 stove, 4 greenhouse, 10 hardy. *Flowers*, various; all times of the year. *Stove culture: Compost*, two parts rough fibry peat, one part sphagnum moss & sand. *Position*, pots or pans drained one-third of their depth. *Repot*, Mar. or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 65°. *Greenhouse culture: Compost & position*, same as above. *Repot*, Ap. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Mar. to Sept. 60 to 65°; Sept. to Mar. 50° to 55°. *Culture of Hardy species: Compost*, equal parts loam, leaf-mould, road grit & small stones. *Position*, partially shady sheltered nooks on rockery. *Plant*, Mar. or Ap. *Water* in dry weather. *Propagate* all the species by division of the roots at potting or planting time.

Cyrtanthus.—*Ord.* Amaryllidaceæ. Greenhouse bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1774. *Ht.* 6 to 12 in. *Species* cultivated, 6 deciduous, 1 evergreen. *Flowers*, orange, red, scarlet, white, fragrant; Feb. to Aug. *Compost*, two parts loam, one part sand & peat. *Position*, well drained pots on shelf in light greenhouse. *Pot* bulbs in Oct. or Nov., 2 in. deep. *Water* freely Mar. to Oct., very little other times. *Temp.*, Nov. to Ap., 50° to 55°; Ap. to Nov. 60° to 65°. *Propagate* by offsets in Nov.

Cyrtoceras (Manilla Wax-plant).—*Ord.* Asclepiadaceæ. Stove evergreen climbing plant. *Nat.* Borneo. *Int.* 1838. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, buff; Aug. *Compost*, equal parts fibry peat & sandy loam, one fourth small pieces of charcoal. *Position*, small pots, well drained, shoots trained on wire trellis or on roof of plant stove. *Water* moderately Ap. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm shoots 3 in. long inserted in sand under bell-glass in temp. 75° to 85° from Mar. to July.

Cyrtochilum.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Central America, Vera Cruz. *Int.* 1837. *Ht.* 4 to 6 in. *Species* cultivated, 2. *Flowers*, citron, green, purple; Dec. to Ap. *Compost*, rough fibrous peat & charcoal. *Position*, well drained pots or on blocks of wood suspended from roof. *Pot & reblock*, Feb. or Mar. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Feb. to Oct. 65° to 85°; Oct. to Feb. 50° to 60°. *Growing period*, Ap. to Aug. *Resting period*, Aug. to Ap. *Propagate* by division of pseudo-bulbs in Feb. or Mar.

Cyrtopodium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Trop. America, E. Indies, Brazil, Sikkim. *Int.* 1804. *Ht.* 3 to 5 ft. *Species* cultivated, 4. *Flowers*, yellow, brown, red, purple, rose; Ap. to Aug. *Compost*, two parts rich fibrous loam & decayed manure. *Position*, large pots or pans, well drained, in plant stove. *Pot*, Mar. or Ap. *Water* freely Ap. to Aug., moderately Aug. to Nov., afterwards keep nearly dry. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 70°. *Growing period*, Mar. to Aug. *Resting period*, Aug. to Mar. *Propagate* by division of pseudo-bulbs at potting time.

Cytisus (Milk-trefoil, Shrub-trefoil, Tree-trefoil, Portugal Laburnum, Pigmy Laburnum, Austrian Laburnum, Two-flowered Laburnum, Canary Islands Laburnum, Clustered-flowered Laburnum, Thread-stemmed Laburnum, Hairy Laburnum, Black-rooted Broom, Proliferous Laburnum, Purple-flowered Laburnum, Evergreen Laburnum, Stalkless-flowered Laburnum, Adam's Laburnum).—*Ord.* Leguminosæ. Greenhouse & hardy deciduous & evergreen flowering shrubs. *Nat.* Spain, Portugal, Maritime Alps, Europe, Hungary, Canary Islands, Teneriffe. *Int.* 1629. *Ht.* 4 in. to 10 ft. *Species* cultivated, 9 hardy, 3 greenhouse. *Flowers*, white, yellow, purple; Ap. to Aug. *Culture of Hardy species: Soil*, ordinary, rich. *Position*, rockery for *C. Ardoini*, shrubbery borders for other species. *Plant*, Oct., Nov., or Dec. *Prune* into shape after flowering. *Culture of Greenhouse species: Compost*, two parts turfy loam, one part lumpy peat & sharp sand. *Position*, pots in greenhouse. *Pot*, May or June. *Prune* shoots to within 2 in. of base directly after flowering, & place plants in temp. 50° to 55° to make new growth before potting. *Place* plants in sunny position outdoors from end of July to Oct. to ripen growth. *Water* freely Mar. to May, moderately during May & June, freely June to Nov., moderately afterwards. *Apply* weak liquid or artificial manure to plants during time they are in flower. *Temp.*, Nov. to Feb. 45° to 50°; Feb. to May, 50° to 55°; May to June, 55° to 60°. *Propagate* greenhouse species by cuttings of young shoots 3 in. long, with small portions of branches attached, inserted in sandy soil in well drained pots under bell-glass in temp. 75° to 80° in Mar., Ap. or May; seeds sown $\frac{1}{4}$ in. deep in well drained pots of light soil in temp. 65° to 70° in Mar.; hardy species by seeds sown $\frac{1}{4}$ in. deep outdoors in Mar. or Ap.; layers in Oct. or Nov.; grafting in Mar. or Ap.

Cystopteris (Alpine Bladder Fern, Narrow-fronded Bladder Fern, Toothed Bladder Fern, Brittle Bladder Fern, Mountain Bladder Fern).—*Ord.* Filices. Hardy deciduous ferns. *Nat.* Mountains of Europe, Asia Minor, Temp. regions of N. Hemisphere, N. America. *Int.* (foreign species) 1638. *Ht.* 6 to 9 in. *Species* cultivated, 4. *Soil*, rich, deep, sandy loam, freely mixed with pieces of limestone or dried mortar. *Position*, well drained shady sheltered rockery. *Plant*, Mar. or Ap. *Water* moderately in dry weather. *Pot culture: Compost*, two parts good loam, one part leaf-soil mixed with old mortar or sand. *Position*, well drained in cold frame in shade. *Repot*, Mar. or Ap. *Water* freely Ap. to Sept., moderately Sept. to Nov., keeping nearly dry afterwards. *Propagate* by spores sown on surface of fine sandy soil in shallow boxes or pans, cover with sheet of glass, & place in cold frame at any time; division of plant in Mar. or Ap.

Dabæcia (Irish St. Dabeoc's Heath).—*Ord.* Ericaceæ. Evergreen flowering shrub. *Nat.* Ireland, S. W. Europe, Azores. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, rose, purple; June to Sept. *Compost*, sandy peat & loam. *Position*, sunny banks or rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by cuttings inserted in sandy soil in sum. under hand-light; layers of shoots in autn.

Dacrydium (Huon Pine of Tasmania, Imou Pine, Red Pine).—*Ord.*

Coniferæ. Hardy evergreen orn. foliage tree. *Nat.* Tasmania, New Zealand. *Int.* 1825. *Ht.* 16 to 100 ft. *Species* cultivated, 2. *Habit*, pyramidal, pendulus. *Compost*, sandy loam & peat. *Position*, sheltered; S. of England only. *Plant*, Oct. or Ap. *Propagate* by cuttings of firm shoots inserted in sandy peat under bell-glass in temp. 55° to 65° in Aug. or Sept.

Dactylis (Cock's-foot Grass, Dew Grass, Hard Grass, Orchard Grass, Sticky Grass, Golden Edge Grass).—*Ord.* Gramineæ. Hardy orn. grass. *Nat.* Britain, Europe, Central Asia. *Ht.* 8 to 20 in. *Species* cultivated, 1; variety 1. *Leaves*, variegated with white. *Soil*, ordinary. *Position*, variegated kind, margins of flower beds or borders in sun or shade, or mixed with bedding plants; common species, margins of ponds or moist places. *Plant*, Oct. or Ap., 3 to 6 in. apart. *Propagate* by division of plants in Oct. or Ap.

Dadder Grass (*Briza media*)—see Briza.

Dæmonorops (Rope Palm).—*Ord.* Palmaceæ. Stove orn. foliage plant. *Nat.* India, Sumatra, Java, Malay Archipelago. *Int.* 1870. *Ht.* 4 to 15 ft. *Species* cultivated, 3. *Leaves*, pinnate, armed with spines, deep green. *Compost*, two parts turfy loam, one part leaf-mould & coarse sand. *Position*, well drained pots in shade. *Pot* firmly in Mar. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar., 60° to 65°; Mar. to Sept. 80° to 85°. *Propagate* by seeds sown in temp. 80° in Mar.; suckers growing from roots inserted in small pots of sandy soil under bell-glass in temp. 80°.

Daffadowndilly (*Narcissus Pseudo-narcissus*)—see Narcissus.

Daffodil (*Narcissus Pseudo-narcissus*)—see Narcissus.

Daffodil Garlic (*Allium neapolitanum*)—see Allium.

Daffodil Lily (*Amaryllis belladonna*)—see Amaryllis.

Dagger-flower (*Aster tanacetifolius*)—see Aster.

Dagger-plant (*Yucca gloriosa*)—see Yucca.

Dahlia.—*Ord.* Compositæ. Half-hardy herbaceous tuberous-rooted perennials. *Nat.* Central America, Mexico. *Int.* 1789. *Ht.* 3 to 5 ft. *Species* cultivated, 7; varieties many. *Types in cultivation*, single, pompon, show, fancy, cactus or decorative. *Character of types:* Single, six petals; pompons, several petals, incurved, bloom double & small; show, numerous petals, incurved, large double blooms; fancy, same as show in form, but striped or spotted with various colours; cactus or decorative, semi-double blooms, reflexed petals. *Flowers*, various; sum. & autn. *Outdoor culture: Soil*, ordinary, well enriched with manure. *Position*, open sunny beds or borders. *Plant* tubers 3 in. deep in Ap., or start them to grow in pots in temp. 55° in Mar., planting outdoors in May or June. *Thin* shoots to three on each plant in July; flower buds to one on each shoot in Aug. *Apply* liquid manure occasionally in July, Aug. & Sept. *Lift* & store tubers in frost-proof place in Oct., just covering them with soil or cocoanut-fibre refuse. *Cut* down stems to within 6 in. of tubers before lifting. *Tubers* may be left in the ground all the year round on dry soils, if surface is covered with layer of cinder-ashes. *Culture in pots: Compost*, two parts turfy loam, one part decayed manure. *Place* tubers in well drained 6-in. pots in Mar., in temp. 55°. *Water* moderately & keep close to glass. *Transfer* to 8-in. pots in May. *Stand* plants outdoors in June. *Apply* liquid manure in July. *Thin* shoots to three on each plant; flower buds to one on each shoot in Aug. *Withhold* water after flowering & store away in frost-proof place. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 65° to 75° in Mar.; cuttings of shoots 3 in. long issuing from tubers, inserted in 2-in. pots of sandy soil, in temp. 65° to 70° in Feb., Mar. or Ap.; division of tubers in Mar. or Ap.; grafting shoots on tubers in autn. or spring.

Dahurian Bell-flower (*Campanula dahurica*)—see Campanula.

Dahurian Bindweed (*Calystegia dahurica*)—see Calystegia.

Dahurian Buckthorn (*Rhamnus dahuricus*)—see Rhamnus.

Dahurian Guelder Rose (*Viburnum dahuricum*)—see Viburnum.

Daisy-bush (*Olearia Haastii*)—see Olearia.

Daisy Fleabane (*Erigeron annus & E. strigosus*)—see Erigeron.

Daisy-leaved Sea Lavender (*Statice bellidifolia*)—see Statice.

Daisy-leaved Soapwort (*Saponaria bellidifolia*)—see Saponaria.

Daisy-leaved Speedwell (*Veronica bellidioides*)—see Veronica.

Daisy Star (*Bellidiastrum Michelii*)—see Bellidiastrum.

Daisy-tree (*Olearia Haastii*)—see Olearia.

Dalechampia. — *Ord.* Euphorbiaceæ. Stove flowering evergreen shrubs. *Nat.* Vera Cruz. *Int.* 1867. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, insignificant. *Bracts*, rich carmine, rose, fragrant; sum. *Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, shady part of plant stove. *Pot*, Mar. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings inserted in sandy peat under bell-glass in Mar., Ap. or May, in temp. 85°.

Dalibarda (False Violet),—*Ord.* Rosaceæ. Hardy creeping evergreen perennial. *Nat.* N. America. *Int.* 1768. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, white; May & June. *Soil*, sandy peat. *Position*, sheltered rockery. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.

Dalmatian Cap (*Tulipa gesneriana*)—see Tulipa.

Dalmatian Crocus (*Crocus dalmaticus*)—see Crocus.

Dalmatian Strawberry (*Arbutus unedo*)—see Arbutus.

Damascus Crocus (*Crocus damascenus*)—see Crocus.

Damask Rose (*Rosa damascena*)—see Rosa.

Dame's Rocket (*Hesperis matronalis*)—see Hesperis.

Dame's Violet (*Hesperis matronalis*)—see Hesperis.

Damsel—another name for Damson.

Damson (*Prunus domestica var. damascena*).—*Ord.* Rosaceæ. Hardy deciduous fruit-bearing tree. *Nat.* England. *Varieties* cultivated, 6. *Fruit*, round or oval, yellow or purple; Sept. & Oct. *Soil*, moderately rich deep loam. *Position*, south aspect, well drained site. *Shape of trees*, standard, pyramidal, or bush. *Plant* bush-trained trees 5 ft. apart; pyramidal, 15 ft.; standards, 20 ft., in Nov., Dec. or Jan. *Depth for roots*, 6 in. *Prune* in Dec., simply cutting away old branches or weak shoots and moderately shortening strong ones. *Propagate* by seeds (stones) sown 1 in. deep outdoors in Oct., Nov. or Dec.

Dandelion-leaved Evening Primrose (*Œnothera taraxacifolia*)—see Œnothera.

Dandolos Mulberry-tree (*Morus alba var. Morettiana*)—see Morus

Dane-ball (*Sambucus ebulus*)—see Sambucus.

Danebrog Poppy (*Papaver somniferum*)—see Papaver.

Dane's-blood (*Anemone pulsatilla, Campanula glomerata, & Sambucus ebulus*)—see Anemone, Campanula, & Sambucus.

Dane's-weed (*Eryngium campestro & Sambucus ebulus*)—see Eryngium & Sambucus.

Daniel's Azalea (*Azalea Danielsiana*)—see Azalea.

Danish Whitlow Grass (*Draba aurea*)—see Draba.

Daphne (Garland-flower, Copse Laurel, Dwarf Bay, Spurge Laurel, Wood Laurel, Mezereon, Mysterious Plant, Spurge Flax, Spurge Holly).—*Ord.* Thymelaceæ. Greenhouse & hardy evergreen flowering shrubs. *Nat.* Europe, China, Japan, Britain, Siberia. *Int.* (foreign species) 1752. *Ht.* 1 to 4 ft. *Species* cultivated, 12 hardy, 4 greenhouse. *Flowers*, white, pink, lilac, yellow, red, purple, fragrant; Jan. to July. *Culture of Greenhouse species: Compost*, two parts loam, one part peat & sand. *Position*, airy greenhouse from Sept. to June, outdoors June to Sept. *Pot*, Feb. *Pinch* out points of young shoots in June. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 65°. *Culture of Hardy species: Soil*, sandy peat. *Position*, drooping over front of rockeries for trailing species; summit of rockery or open border for erect species. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by cuttings of side shoots inserted, in Oct. or Nov., in well drained pots or pans of sandy peat under bell-glass in temp. 50° to 55°; layers in Mar. or Ap.; grafting on *D. laureola* & *D. pontica* in spring.

Dark-coloured Dwarf Bell-flower (*Campanula pulla*)—see Campanula.

Dark-crimson Cinquefoil (*Potentilla atrosanguinea*)—see Potentilla.

Dark-flowered Crocus (*Crocus obscurus*)—see Crocus.

Dark-flowered Meadow-rue (*Thalictrum atropurpureum*) — see Thalictrum.

Dark-flowered Orchis (*Orchis nigra*)—see Orchis.

Dark-flowered Stock (*Matthiola tristis*)—see Matthiola.

Dark-purple-flowered Black Currant (*Ribes atropurpureum*)—see Ribes.

Dark-purple Grape Hyacinth (*Muscari commutatum*)—see Muscari.

Dark-purple Helen-flower (*Helenium atropurpureum*)—see Helenium.

Dark-purple Hellebore (*Helleborus atrorubens*)—see Helleborus.

Dark-purple Stonecrop (*Sedum atropurpureum*)—see Sedum.

Dark-red Side-saddle-flower (*Sarracenia atrosanguinea*) — see Sarracenia.

Dark-red Sunflower (*Helianthus atrorubens*)—see Helianthus.

Dark-spotted Poppy (*Papaver umbrosum*)—see Papaver.

Dark-stemmed Bamboo (*Bambusa nigra*)—see Bambusa.

Dark-yellow Day Lily (*Hemerocallis lutea*)—see Hemerocallis.

Darling River Pea (*Swainsonia Greyana*)—see Swainsonia.

Darlingtonia (Californian Pitcher-plant). — *Ord.* Sarraceneaceæ. Hardy herbaceous orn. foliage plant. *Nat.* California. *Int.* 1861. *Ht.* 1 to 1½ ft. *Species* cultivated, 1. *Flowers*, white or pale green; Ap. *Pitchers*, borne on summit of leaves, hood-like, bright green, mottled with white & pink. *Greenhouse culture: Compost*, equal parts peat, chopped sphagnum, sharp sand & small pieces of limestone. *Position*, under handlight in shady greenhouse. *Pot*, Feb. or Mar. *Water* freely at all times. *Syringe* daily Mar. to Sept. *Ventilate* hand-light daily. *Outdoor culture: Compost*, spongy fibrous peat & chopped sphagnum moss. *Position*, damp, by side of stream, or in bog exposed to sun, but sheltered from cold winds. *Plant*, Mar. or Ap. *Propagate* by seeds sown on surface of mixture of fibrous peat, charcoal, sphagnum & sand in a pan stood partly in water & covered with a bell-glass in cool greenhouse in Ap. or May; division of side shoots inserted in small pots at any time of year.

Darsham Fern (*Lastrea cristata*)—see Lastrea.

Dart Grass (*Holcus mollis* & *H. lanatus*)—see Holcus.

Darwinia.—*Ord.* Myrtaceæ. Greenhouse evergreen shrubs. *Nat.* Australia. *Int.* 1820. *Ht.* 1 to 3 ft. *Species* cultivated, 10. *Flowers*, white, red, purple; Ap. to June. *Compost*, equal parts loam, peat & sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly in Feb. or Mar. *Water* moderately Sept. to Mar., freely Mar. to Sept. *Prune*, Feb. or Mar. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of young shoots 2 or 3 in. long, inserted in sandy peat under bell-glass in temp. 40° to 50° in Ap. or May.

Darwin's Barberry (*Berberis Darwini*)—see Berberis.

Dasylirion.—*Ord.* Liliaceæ. Greenhouse evergreen plants. Orn. foliage. *Nat.* Mexico. *Int.* 1835. *Ht.* 3 to 12 ft. *Species* cultivated, 5; varieties, 3. *Flowers*, white; sum. *Leaves*, glaucous green, with spiny margins. *Compost*, two parts loam & peat, one sand. *Position*, pots or tubs in airy greenhouse, dwelling-rooms, or outdoors in beds May to Sept. *Pot* firmly Feb. or Mar. *Water* very little Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept., 50° to 60°. *Propagate* by seeds sown in sandy peat in well drained pans or pots under bell-glass in temp. 50° to 60° in Mar., Ap. or May.

Date Palm (*Phœnix dactylifera*) – see Phœnix.

Date-Plum (*Diospyros virginica*)—see Diospyros.

Datisca (False Hemp).—*Ord.* Datisceæ. Hardy herbaceous perennial. Orn. foliage. *Nat.* Crete, W. Asia. *Int.* 1739. *Ht.* 3 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; Sept.; male & female borne on separate plants. *Leaves*, pinnate, green. *Soil*, deep rich, ordinary. *Position*, open & sunny border. *Plant*, Oct., Nov., Mar. or Ap. *Female* plant most effective. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in fine soil outdoors in Mar., Ap. or May, transplanting seedlings to permanent positions any time.

Datura (Thorn Apple, Double Trumpet, Dewtry, Jamestown weed, Stink-weed).—*Ord.* Solanaceæ. Half-hardy & greenhouse annuals, shrubs & trees. *Nat.* Cuba, Organ Mountains, E. Indies, California, Mexico, Peru, England, America. *Int.* (foreign species) 1596. *Ht.* 1 to 15 ft. *Species* cultivated, 5 greenhouse shrubs, 7 annuals; varieties 7. *Flowers*, white, yellow, violet; Ap. to Aug. *Culture of annual species: Soil*, light sandy. *Position*, sunny borders outdoors. *Plant*, May. *Culture of shrubby species: Compost*, equal parts loam, fibrous peat, well decomposed manure & silver sand. *Position*, pots, tubs, or borders well drained in sunny greenhouse. *Pot or plant*, Mar. *Prune* freely Sept. or Oct. *Water* very little Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65°. *Place* plants outdoors in sunny position June to Sept. *Apply* liquid manure occasionally whilst plants are in flower. *Propagate* annuals by seed sown $\frac{1}{8}$ in. deep in light sandy soil in well drained pots in temp. 55° to 65° in Mar. or Ap., & transfer the seedlings to small pots until planting time; shrubby species by cuttings of shoots 6 in. long inserted in sandy soil under bell-glass in temp. 65° to 75° in spring or autn.

Daurian Moon-seed (*Menispermum dauricum*)—see Menispermum.

Daurian Rhododendron (*Rhododendron dauricum*) — see Rhododendron.

Davallia (Hare's-foot Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Africa, Australia, India, Java, Ceylon, Borneo, Malay Archipelago, E. Indies, Polynesia, New Zealand, N.S. Wales, Spain. *Int.* 1699. *Ht.* 1 in. to 2 ft. *Species* cultivated, 42; varieties several. *Culture of stove species: Compost*, two parts loam, one part leaf-mould, peat, pounded charcoal & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in light part of plant stove. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Culture of greenhouse species: Compost*, same as for stove species. *Pot*, Mar. or Ap. *Position*, pots or baskets in partial shade. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50 to 60°. *Propagate* by spores sown on surface of sandy peat in pans under bell-glass in temp. 55° to 75° at any time; division of rhizomes in Feb. or Mar.

David's Clematis (*Clematis Davidiana*)—see Clematis.

David's Harp (*Polygonatum multiflorum*)—see Polygonatum.

David's root (*Celastrus scandens*)—see Celastrus.

Daviesia (Native Hop of Australia).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* Tasmania, New Holland. *Int.* 1805. *Ht.*

2 to 5 ft. *Species* cultivated, 2. *Flowers*, orange, yellow; Ap., May. *Compost*, equal parts loam, peat & silver sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly Mar. or Ap. *Water* very little Oct. to Mar., moderately other times. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of firm young shoots inserted in sand under bell-glass in temp. 50° to 55° in spring; seeds sown $\frac{1}{16}$ in. deep in sandy peat in temp. 55° in Mar.

Day-berry (*Ribes grossularia*)—see Ribes.

Day-flower (*Commelina cœlestis*)—see Commelina.

Day-lily (*Hemerocallis fulva*)—see Hemerocallis.

Dead Men's Bells (*Digitalis purpurea*)—see Digitalis.

Dead Men's Fingers (*Orchis mascula*)—see Orchis.

Dead-wort (*Sambucus ebulus*)—see Sambucus.

Deal Trees (*Abies excelsa* & *Pinus austriaca*)—see Abies & Pinus.

De Bergh's Iris (*Iris De Berghi*)—see Iris.

Decaisne's Locust-tree (*Robinia pseudo-acacia Decaisneana*)—see Robinia.

De Candolle's Primrose (*Primula Candolleana*)—see Primula.

Deccan Grass (*Panicum frumentaceum*)—see Panicum.

Deciduous Cypress (*Taxodium distichum*)—see Taxodium.

Declining-branched Elm (*Ulmus major*)—see Ulmus.

Decumaria.—*Ord.* Saxifragaceæ. Hardy orn. deciduous twiner. *Nat.* U.S. America. *Int.* 1785. *Ht.* 4 to 30 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; June. *Soil*, light, rich. *Position*, against south or west walls, arbours or trellis work. *Plant*, Oct., Nov. or Dec. *Prune* away weak & dead shoots in Feb. *Propagate* by cuttings of shoots inserted in ordinary soil under hand-light in shady position outdoors in sum.

Deep-green-flowered Stonecrop (*Sedum virens*)—see Sedum.

Deep-rose Camellia (*Camellia rubens*)—see Camellia.

Deep-rose-coloured American Cowslip (*Dodecatheon meadia var. splendens*)—see Dodecatheon.

Deep-yellow-flowered Gromwell (*Lithospermum officinale*)—see Lithospermum.

Deer Berry (*Mitchella repens* & *Vaccinium stamineum*)—see Mitchella & Vaccinium.

Deer Fern (*Lomaria spicant*)—see Lomaria.

Deer Grass (*Rhexia virginica*)—see Rhexia.

Deer's-foot Grass (*Agrostis setacea*)—see Agrostis.

Deer's Hair (*Scirpus cæspitosus*)—see Scirpus.

Deil's Spoons (*Potamogeton natans* & *Alisma plantago*)—see Potamogeton & Alisma.

Delicate-tinted Iris (*Iris amœna*)—see Iris.

Delphinium (Dolphin-flower, Larkspur).—*Ord.* Ranunculaceæ. Hardy annuals & herbaceous perennials. *Nat.* Britain, N. America., California. Kashmir, Pyrenees, Caucasus, Dahuria, Siberia, Tauria, E. Europe, S. Europe, *Int.* (foreign species) 1596. *Ht.* 6 in. to 6 ft. *Species* cultivated, 4 annuals, 11 perennials; varieties numerous. *Culture of annual species: Soil*, ordinary, rich. *Position*, open beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep where plants are to flower in Ap., or in light soil in shallow boxes in temp. 55° in Ap., transplanting seedlings in May. *Culture of perennials: Soil*, deep, rich. *Position*, sunny beds or borders. *Plant* 3 ft. apart in Oct., Nov., Mar. or Ap. *Cut* down flower stems in Aug. or Sept. *Lift & replant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors in Ap., or in pans or boxes of light soil in temp. 55° in Ap.; cuttings of young shoots, 3 in. long, inserted in 2 in. pots of sandy soil in cold frame in Sept. or Mar.; division of roots in Oct. or Mar.

Dendrobium (Mouse-tail Orchid, Rock Lily).—*Ord.* Orchidaceæ. Stove & greenhouse epiphytal evergreen & deciduous orchids. *Nat.* Java, Sumatra, Borneo, Nepaul, Moulmein, Brazil, Paraguay, Cochin China, E. Indies, Arracan Hills, Torres Straits, Burmah, Phillipine Islands, Assam, Khasya, Sikkim, Gualpara, Australia, China, Japan, Ceylon, Manilla, Queensland, Chittagong, New Guinea. *Int.* 1801. *Ht.* 3 in. to 4 ft. *Species* cultivated, about 100; varieties & hybrids many. *Flowers*, shades of rose, purple, yellow, white, crimson, amber, pink, magenta, orange, lilac, scarlet; all times of the year. *Culture of stove species: Compost*, equal parts peat, living sphagnum moss & charcoal. *Position*, erect species in well drained pots; drooping species in baskets & on blocks or rafts of wood. *Place* in pots, etc., Feb. or Mar. *Water* freely Ap. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Feb. 60° to 65°; Feb. to Mar. 65° to 70°. *Culture of greenhouse species: Compost*, same as above. *Position*, pots, blocks, or baskets. *Repot*, etc., in Feb. or Mar. *Water* moderately Sept. to Feb., freely afterwards. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Oct. 55° to 65°. *Growing period*, Mar. to Aug. *Resting period*, Oct. to Feb. *Propagate* by offsets or cuttings of pseudo-bulbs inserted in well drained pots of peat & sphagnum moss under bell-glass, in temp. 85° to 95° at any time.

Dendrochilum.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Manilla, Phillipine Islands. *Int.* 1836. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, yellow, white, fragrant; Mar. to July. *Compost*, equal parts fibrous peat & sphagnum. *Position*, well drained pots in plant stove. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Oct. to Mar. 60° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by dividing pseudo-bulbs & plants when beginning to grow.

Denhardt's Rest-barrow (*Ononis Denhardtii*)—see Ononis.

Dense-clustered-flowered Jacob's Ladder (*Polemonium confertum*)—see Polemonium.

Dense-foliaged St. John's-wort (*Hypericum frondosum*)—see Hypericum.

Densely-flowered Arbute-tree (*Arbutus densiflora*)—see Arbutus.

Dentaria (Pepper-root, Tooth-wort, Coral-root, Tooth Cress, Tooth Violet).—*Ord.* Cruciferæ. Hardy herbaceous perennials. *Nat.* Britain, Europe, N. America. *Int.* (foreign species) 1659. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8. *Flowers*, white, rose, cream, purple; Ap. to June. *Soil*, light, rich. *Position*, moist & shady. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in shallow boxes in cold frame in Mar. or Ap., transplanting seedlings outdoors in June or July; division of roots in Oct., Nov. or Mar.

Denticulate Medick (*Medicago denticulata*)—see Medicago.

Deodar (*Cedrus Deodara*)—see Cedrus.

Deparia.—*Ord.* Filices. Stove ferns. *Nat.* Peru, New Caledonia, N.S. Wales, Sandwich Islands. *Int.*, date unknown. *Ht.* 12 to 18 in. *Species* cultivated, 4. *Compost*, two part peat, one loam, silver sand, & charcoal. *Pot*, Mar. *Position*, shady part of plant stove. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by spores sown on fine sandy peat, kept moist & shady, under bell-glass in temp. 75° to 85° in spring.

Deppe's Wood-sorrel (*Oxalis Deppei*)—see Oxalis.

Deptford Pink (*Dianthus armeria*)—See Dianthus.

Desert Rod (*Eremostachys laciniata*)—see Eremostachys.

Desfontania.—*Ord.* Loganiaceæ. Hardy evergreen shrub; orn. foliage & flowering. *Nat.* Chili, New Grenada. *Int.* 1853. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, scarlet, yellow; Aug. *Leaves*, oval, dark shiny green, with spiny margins. *Compost*, equal parts peat & loam. *Position*, sheltered borders outdoors, or against south wall. *Plant*, Oct., Nov. or Ap.

Greenhouse culture: *Compost*, equal parts peat, loam, charcoal & sand. *Position*, well drained pots, tubs, or borders. *Pot or Plant*, Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Propagate* by cuttings inserted in sandy peat & loam in well drained pots under bell-glass or hand-light in temp. 55° to 65° in spring.

Desmodium (West Indian Honeysuckle, Tick Trefoil, Moving-plant, Telegraph-plant).—*Ord.* Leguminosæ. Hardy perennial herbs, & stove & greenhouse shrubs. *Nat.* E. Indies, N. America, Nepaul. *Int.* 1640. *Ht.* 1 to 6 ft. *Species* cultivated, 1 hardy, 1 stove. *Flowers*, reddish-purple, violet; July. *Leaves* of stove species (D. gyrans) pinnate; leaflets move rapidly up and down, especially during sunshine. *Culture of stove species:* *Compost*, equal parts peat, loam & silver sand. *Position*, pots in plant stove. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Culture of hardy species:* *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Nov. *Cut* down stems in autn. *Propagate* stove species by seeds sown in light sandy soil in temp. 75° to 80° in Feb. or Mar., or by cuttings inserted in sandy peat under bell-glass in temp. 75° to 80° in Mar. or Ap.; hardy species by division of plants in autn.

Deutzia (Japanese Snow-flower).—*Ord.* Saxifragaceæ. Hardy deciduous flowering shrubs. *Nat.* Japan, Himalayas. *Int.*, date unknown. *Ht.* 1 to 8 ft. *Species* cultivated, 4. *Flowers*, white, fragrant; Ap. to June. *Outdoor culture:* *Soil*, ordinary. *Position*, sunny, well drained border. *Plant*, Oct. to Feb. *Prune*, June. *Pot culture:* *Compost*, two parts loam, one part decayed manure & sand. *Pot*, Oct. or Nov. *Position*, cold frame Nov. to Feb.; greenhouse Feb. to May; outdoors afterwards. *Water* very little Oct. to Feb., moderately Feb. to Ap., freely Ap. to Oct. *Temp.*, Feb. to May 55° to 65°. *Plants* will flower in cold greenhouse without heat if desired. *Plant* out deutzias that have flowered in heat in open garden for a year, then lift & repot, to flower again. *Propagate* by cuttings of young shoots, 3 in. long, inserted in sandy soil under bell-glass in cold frame in June or July, also of firm shoots, 10 to 12 in. long, inserted in ordinary soil outdoors in Nov., Dec., or Jan.

Daucus (Carrot).—*Ord.* Umbelliferæ. Hardy esculent-rooted biennial. *Nat.* Britain. *Ht.* 12 to 15 in. *Species* cultivated, 1; varieties many. *Flowers*, white, borne second year; June, July. *Soil*, deep, rich, sandy for long kinds; shallow, light for short varieties. *Position*, open garden for main crop; south border for early crop. *Manure* for previous crop, not for carrots. *Sow* seeds ½ in. deep in rows 9 in. apart for long sorts; 6 in. apart for shorthorns. *Time to sow*, Feb., Mar., Ap. or Aug. *Thin* seedlings to 6 & 9 in. apart in June. *Lift & store* roots in Oct. & Nov. *Forcing:* *Soil*, light rich. *Position*, frame over hotbed, with temp. 75° to 80°. *Sow* seeds thinly ¼ in. deep in Feb. or Mar. *Water* moderately. *Ventilate* frame when temp. reaches 75°. *Thin* seedlings to 3 in. apart when 1 in. high.

Devil-in-a-Bush (*Nigella damascena*)—see Nigella.

Devil Wood (*Osmanthus americanus*)—see Osmanthus.

Devil's Apple (*Mandragora officinalis*)—see Mandragora.

Devil's Bean (*Capparis cynophallophora*)—see Capparis.

Devil's Bit (*Scabiosa succisa*)—see Scabiosa.

Devil's Candlestick (*Nepeta glechoma*)—see Nepeta.

Devil's Fig (*Argemone mexicana*)—see Argemone.

Devil's Flower (*Lychnis diurna*)—see Lychnis.

Devil's Garter (*Convolvulus sepium*)—see Convolvulus.

Devil's Herb (*Plumbago scandens*)—see Plumbago.

Devil's Milk (*Euphorbia helioscopia*)—see Euphorbia.

Devil's Trumpet (*Daturia stramonium*)—see Datura.

Devonshire Myrtle (*Myrica Gale*)—see Myrica.

Devonshire Oak (*Quercus cerris var. Lucombeana*)—see Quercus.

Dew Berry (*Ribes cæsius*)—see Ribes.

Dew Grass (*Dactylis glomerata*)—see Dactylis.

Dew Plant (*Mesembryanthemum glabrum*)—see Mesembryanthemum.

Dewtoy (*Datura stramonium*)—see Datura.

Diadem Pink (*Dianthus diadematus*)—see Dianthus.

Diamond-leaved Bellflower (*Campanula rhomboidea*)—see Campanula.

Dianella (Flax Lily, Paroo Lily).—*Ord.* Liliaceæ. Half-hardy fibrous-rooted perennials. Orn. foliage & fruiting plants. *Nat.* New Zealand, E. Indies, N. S. Wales. *Int.* 1731. *Ht.* 18 in. to 2 ft. *Species* cultivated, 3. *Flowers*, blue, white; May, June. *Fruit*, blue; sum. *Outdoor culture: Compost*, equal parts loam & peat. *Position*, sheltered borders; S. of England only. *Plant*, Oct., Mar. or Ap. *Greenhouse culture: Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in unheated greenhouse. *Pot*, Feb., Mar. or Ap. *Water* moderately Sept. to Mar., freely afterwards. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 55° to 65° in spring; division of fibrous roots Oct. or Mar.

Dianthera (Water Willow).—*Ord.* Acanthaceæ. Stove shrubby plants & hardy perennial herbs. *Nat.* Canada, Texas, Carolina, Brazil, W. Indies, Venezuela. *Int.* 1793. *Ht.* 1 to 3 ft. *Species* cultivated, 3 stove, 1 hardy. *Flowers*, violet, purple, red; Oct. to July. *Culture of stove species: Compost*, equal parts loam, leaf-mould & sand. *Position*, well drained pots in plant stove Sept. to June, afterwards in sunny cold frame. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Prune* shoots in closely in Feb. or Mar. *Propagate* by cuttings of side shoots inserted in sandy compost in small pots under bell-glass in temp. 75° to 80° in Mar. or Ap.

Dianthus (Alpine Pink, Chinese Pink, Deptford Pink, Sand Pink, Italian Pink, Sweet John, Sweet William, Cheddar Pink, Clove Pink, Cliff Pink, Mountain Pink, German Pink, Maiden Pink, Diadem Pink, Fischer's Pink, Sweet-scented Pink, Glacier Pink, Japanese Pink, Grass Rose Pink, Rose Pink, Sweet Pink, Fringed Pink, Garden Pink, Feathered Pink, Pheasant's-eye Pink, Indian-eye Pink, Carnation, Carnadine, Clove Gillyflower, Coronation Picotee).—*Ord.* Caryophyllaceæ. Hardy perennials & biennials. *Nat.* (Carnation) S. Europe; (Sweet William) S. & E. Europe; (Pink) E. Europe; (Chinese or Indian Pink) China; others Asia, Britain, Europe, Greece, Russia, Turkestan, Spain, Portugal. *Int.* (Carnation) date unknown, probably by the Romans; (Pink) 1629; (Chinese Pink) 1713; (Sweet William) 1573. *Ht.* 3 in. to 3 ft. *Species* cultivated, 32 perennials, 2 biennials; varieties numerous. *Flowers*, various; May to Sept.; tree varieties, winter. *Classification:* Carnations—*Bizarres*, ground colour one shade, marked or striped with pink scarlet, purple; *Cloves*, one colour, clove-scented; *Flakes*, ground colour one shade, flaked with crimson, rose, or purple; *Selfs*, one colour only; *Tree*, self, striped or flaked, tall habit; *Picotee*, ground colour of one shade, edged with another colour. Pinks—*Show* or *Laced*, petals finely fringed, broad ends white with velvet eye, or velvet eye with laced velvet edges & white centre; *Border*, self-coloured or laced, fragrant, free-flowering, robust; *Alpine*, blooms single, of various colours. Sweet Williams—*Show*, smooth edged petals, dark centres; *Auricula-eyed*, smooth edged petals, white eye, surrounded with crimson or other shades; *Ordinary*, fringed petals, various colours. *Culture of Carnations & Picotees:* Border—*Soil*, moderately rich, ordinary. *Position*, open sunny borders. *Plant* 12 in. apart, Oct. or Mar. *Top-dress* with decayed manure in Ap. or May. *Thin* flower buds to three on each shoot in June. *Apply* liquid manure once a week when flower buds appear. *Stake* flower stems in May. Exhibition—*Compost*, three parts decayed turfy loam, one part decomposed cow manure & river sand. *Position*, open sunny beds. *Plant*, Oct. or Mar. *Top-dress* with decayed cow manure in Ap. *Stake* flower stems in May. *Apply* liquid manure once a week during June & July. *Thin* flower buds in June to one or three on each shoot. *Tie* matting round calyces in July to prevent pod bursting. *Remove* blooms directly they wither. Pot culture—*Compost*, three parts well decayed turfy loam, one part thoroughly decomposed cow manure & river sand. *Position*, cold frame Oct. to Feb., cold greenhouse afterwards. *Pot* singly in 3-in. pots in Oct.; two in an 8-in. pot in Feb. *Water* moderately Oct. to Mar., freely afterwards. *Apply* liquid manure once a week Ap. to July. *Thin* buds to three on each shoot in May. *Tie* calyces as advised above. *Ventilate* greenhouse freely. *Culture of Tree Carnations: Compost*, equal parts sandy loam & leaf-mould, half a part decayed manure & sand. *Position*, greenhouse Sept. to Mar., outdoors remainder of time. *Pot* rooted cuttings in 3-in. pots in Mar., shift into 5-in. pot in May, 6-in. size in June. *Water* moderately Sept. to Ap., freely afterwards. *Apply* liquid manure occasionally. *Thin* flower buds to three on each shoot. *Temp.*, Sept. to May, 50° to 60°. *Plants* raised annually from cuttings best. *Culture of Pinks:* Border—*Soil*, ordinary, well enriched with decayed manure. *Position*, open sunny beds or borders. *Plant* 9 in. apart each way in Aug. or Sept. *Top-dress* with decayed manure in Ap. *Thin* shoots to four on each plant in June if fine blooms are desired. *Apply* liquid manure occasionally Ap. to July. Pot culture—*Compost*, same as for tree carnations. *Position*, cold frame Oct. to Mar.; greenhouse Mar. to June; outdoors June to Oct. *Pot* rooted cuttings in 3-in. pots in Mar.; plant outdoors in May; lift & repot in 5-in. pots in Oct. *Water* moderately in winter, freely other times. *Culture of Sweet Williams: Soil*, ordinary, rich. *Position*, open sunny beds. *Plant* 10 in. apart each way in June, July or Sept. *Apply* guano at rate of 1 oz. to sq. yard in Ap. or May. *Propagate* carnations, picotees, & pinks by seeds sown $\frac{1}{16}$ in. deep in pans of sandy soil in cold frame in Ap., May or June; cuttings or pipings inserted in sandy soil under hand-lights in June or July; layering in July or Aug. Sweet williams by seed sown $\frac{1}{8}$ in. deep in light soil in sunny position outdoors in Ap. or May; cuttings inserted in sandy soil under hand-light in Sept.; layering in July. Tree carnations by seed sown as above; cuttings inserted in sandy soil in temp. 65° to 75° in Feb., Mar. or Ap.

Diapensia.—*Ord.* Diapensiaceæ. Hardy dwarf evergreen alpine shrub. *Nat.* Arctic America, Norway, Lapland. *Ht.* 1 to 2 in. *Int.* 1801. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, deep sandy peat mixed with stones. *Position*, exposed on sunny rockery. *Water* freely June, July & Aug. *Plant*, Mar. or Ap. *Propagate* by division of plants in Mar. or Ap.

Dicentra (Showy Bleeding Heart, Common Bleeding Heart, Plumy Bleeding Heart, Dutchman's Breeches, Breeches-flower, Lock & Keys, Seal-flower, Squirrel Corn).—*Ord.* Fumariaceæ. Hardy herbaceous tuberous & fibrous-rooted perennials. *Nat.* California, U.S. America, Siberia, Japan, Canada, Himalayas. *Int.* 1731. *Ht.* 6 in. to 5 ft. *Species* cultivated, 7. *Flowers*, yellow, purple, red, rose, white; Ap. to Sept. *Soil*, deep light rich sandy. *Position*, warm sheltered borders, rockeries, or in woods. *Plant*, Oct., Nov., Mar. or Ap. *Protect* during winter by covering with layers of ashes or manure. *Top-dress* with decayed manure in Mar. *Pot culture of D. spectabilis in cold greenhouse: Compost*, equal parts loam, leaf-mould & sand. *Pot*, Oct. or Nov. *Position*, cold frame Oct. to Feb.; greenhouse Feb. to May; afterwards planting out in borders. *Water* moderately when new growth begins, freely when in full growth. *Apply* liquid manure once or twice weekly when flower buds appear. *Forcing: Pot*, Oct. *Place* in cold frame till Jan. *Transfer* to temp. 55° to 65° in Jan. *After forcing*, plant out in open border. *Plants* should only be forced in pots one year. *Propagate* by dividing the crowns in Feb., Mar. or Ap.; cuttings of fleshy roots 2 in. long inserted in sandy soil in temp 55° in Mar. or Ap.

Dichæa.—*Ord.* Orchidceæ. Stove epiphytal orchid. *Nat.* W.

Indies, Trop. America. *Int.* 1870. *Species* cultivated, 1. *Flowers*, green, purple; sum. *Compost*, fresh sphagnum moss. *Position*, blocks of wood suspended from roof of stove. *Water* daily. *Temp.*, Mar. to Aug. 65° to 85°; Aug. to Mar. 50° to 60°. *Propagate* by division of plants in Feb. or Mar.

Dicksonia (Tasmanian Tree Fern, St. Helena Tree Fern, Cushion Tree Fern, Jamaica Tree Fern, New Zealand Tree Fern, Hay-scented Tree Fern .—*Ord.* Filices. Stove & greenhouse tree ferns. *Nat.* Australia, Trop. America, New Zealand, St. Helena, Polynesia. *Int.* 1786. *Species* cultivated, 5. *Ht.* 6 to 30 ft. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs well drained in shady stove, greenhouse, or conservatory. *Repot*, Feb., Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse; Mar. to Sept. 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in well drained pots covered with a sheet of glass, & kept moist.

Dictamnus (Burning Bush, Dittany, Fraxinella, Gas plant).—*Ord.* Rutaceæ. Hardy herbaceous perennial. *Nat.* Asia, S.E. Europe. *Int.* 1596. *Ht.* 12 to 18 in. *Species* cultivated, 1; variety 1. *Flowers*, purple, red; May, June. *Foliage*, fragrant. *Soil*, ordinary, dryish. *Position*, partially shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep in light soil outdoors in Aug. or Sept.; cuttings of fleshy roots inserted 2 in. deep outdoors in Mar. or Ap.; division of roots in Oct., Nov. or Mar.

Dictymia—see Polypodium.

Dictyogramma—see Gymnogramma.

Dictyopteris—see Polypodium.

Dictyosperma.—*Ord.* Palmaceæ. Stove Palms. Orn. foliage. *Nat.* Mauritius, Seychelles Islands. *Int.* 1842. *Ht.* 6 to 30 ft. *Species* cultivated, 4. *Leaves*, pinnate. *Compost*, equal parts loam, leaf-mould & sand. *Position*, pots in shady moist plant stove. *Pot*, Feb. or Mar. *Water* freely at all times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of sandy peat in temp. 85° in Feb., Mar. or Ap.

Didymocarpus.—*Ord.* Gesneraceæ. Stove perennial herbs. *Nat.* Trop. Asia. *Int.* 1845. *Ht.* 3 to 12 in. *Species* cultivated, 3. *Flowers*, white, purple, lilac; July to Nov. *Compost*, equal parts peat & loam, one-fourth part cow dung & sand. *Position*, well drained pots in moist plant stove. *Pot*, Feb., Mar. or Ap. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by cuttings of young side shoots inserted in sandy soil under bell-glass in temp. 80° to 85° in Mar. or Ap.

Didymochlæna.—*Ord.* Filices. Greenhouse fern. *Nat.* Trop. America, Malay Archipelago. *Int.* date unknown. *Species* cultivated, 1. *Ht.* 2 to 3 in. *Compost*, two parts loam, one peat, pounded charcoal & sand. *Pot*, Feb. or Mar. *Position*, well drained pots in shady part of greenhouse. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept to Mar. 45° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by spores sown on surface of sandy peat under bell-glass in temp. 55° to 65° at any time.

Dieffenbachia (Dumb Cane).—*Ord.* Aroidaceæ. Stove evergreen perennials. Orn. foliage. *Nat.* Trop. America, Brazil, Venezuela, Ecuador. *Int.* 1863. *Ht.* 2 to 5 ft. *Species* cultivated, 30; varieties, several. *Leaves*, broad, deep green, variegated with white or yellow. *Compost*, equal parts peat & loam, one-fourth part decayed manure & silver sand. *Position*, well drained pots in moist plant stove. *Pot*, Feb. or Mar. *Water* moderately Sept. to Feb., freely afterwards. *Syringe* daily, June, July & Aug. *Shade* in sum. essential. *Temp.*, Sept. to Feb. 55° to 65°; Feb. to Sept. 65° to 85°. *Propagate* by cuttings of stems one to two inches long inserted in sandy soil under bell-glass in temp. 75° to 85° in spring.

Dielytra—see Dicentra.

Diervilla (Bush Honeysuckle).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs. *Nat.* Japan, Siberia, China, N. America. *Int.* 1739. *Ht.* 3 to 8 ft. *Species* cultivated, 6; varieties, 13. *Flowers*, purple, pink, white, red, rose; May to July. *Leaves*, ovate, green or golden. *Soil*, ordinary. *Position*, moist shady shrubberies, or against south, east, or west walls or fences. *Plant*, Oct. to Feb. *Prune* after flowering. *Propagate* by cuttings of young shoots inserted in pots of sandy soil under bell-glass in cool greenhouse in spring; cuttings of firm shoots 6 in. long inserted 3 in. deep & 2 in. apart in north border under hand-light in Oct. or Nov.

Digger Pine-tree (*Pinus Sabiana*)—see Pinus.

Digger's Speedwell of Australia (*Veronica perfoliata*) — see Veronica.

Digitalis (Foxglove, Bloody Finger, Dead Men's Bells, Fairy Finger, Finger-plant, Flag Dock).—*Ord.* Scrophularinaceæ. Hardy biennial & perennial herbs. *Nat.* Britain, N. Africa, W. Asia. *Int.* (foreign species) 1596. *Ht.* 1 to 5 ft. *Species* cultivated, 7 perennials, 2 biennials. *Flowers*, purple, rose, white, yellow, brown; May, Aug. *Soil*, rich ordinary. *Position*, open shady border. *Plant*, Oct., Nov., Mar. or Ap. *Culture of biennials: Sow* seeds $\frac{1}{16}$ in. deep in shady border outdoors in Ap. *Transplant* seedlings 3 in. apart in shady bed in June. *Transfer* seedlings to flowering position in Oct. or Nov. *Propagate* perennials by seeds sown as directed for biennials; division of plants in Mar.

Dill (*Anethum graveolens*).—*Ord.* Umbelliferæ. Hardy perennial culinary herb. Deciduous. *Nat.* Spain. *Int.* 1570. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Leaves* used for flavouring spices & sauces. *Soil*, ordinary. *Position*, open borders. *Plant*, Mar. *Propagate* by seeds sown 1 in. deep in drills 9 in. apart. *Thin* seedlings when 3 in. high to 8 in. apart.

Dill-leaved Wormwood (*Artemisia anethifolia*)—see Artemisia.

Dillen's Tick-Trefoil (*Desmodium Dilleni*)—see Desmodium.

Dillwynia.—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1794. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Flowers*, yellow, purple, red, orange; Mar., Ap. & May. *Compost*, equal parts fibry peat & loam, one-fourth part sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. or June; firm potting essential. *Prune* straggling shoots little after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 45° to 50°. *Place* plants outdoors July to Sept. to mature growth. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy compost in temp. 65° to 70° in Mar.; cuttings inserted in pots of sandy peat under bell-glass in temp. 65° in sum.

Dilo Oil-tree (*Calophyllum inophyllum*)—see Calophyllum.

Diminutive Bellflower (*Campanula pusilla*)—see Campanula.

Diminutive White Bellflower (*Campanula pusilla alba*) — see Campanula.

Dimorphantus.—*Ord.* Araliaceæ. Hardy deciduous shrub. Orn. foliage. *Nat.* Manchuria. *Int.* 1866. *Ht.* 5 to 12 ft. *Species* cultivated, 1. *Leaves* 3 to 5 ft. long & 2 to 4 ft. wide, finely divided, hairy & prickly. *Soil*, ordinary, rich. *Position*, sheltered sunny well drained borders, shrubberies, & on lawns. *Plant*, Oct. to Feb. *Propagate* by cuttings of root 2 in. long inserted in well drained pots of sandy soil in temp. 65° to 75° in Mar. or Ap.

Dimsdale's Silver Spruce (*Abies alba var. glauca*)—see Abies.

Dionæa (Venus' Fly-trap).—*Ord.* Droseraceæ. Greenhouse herbaceous perennials. *Nat.* Carolina, Florida. *Int.* 1768. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; July & Aug. *Leaves* two-lobed, margined with teeth & sensitive. *Compost*, equal parts peat & living sphagnum. *Position*, pots or pans well drained & partly immersed in pans of water, & placed under glass in cool greenhouse. *Pot*, Mar. or Ap. *Water* freely always. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to Sept. 45° to 55°. *Propagate* by seeds sown in mixture of sphagnum moss & peat, kept moist under bell-glass in Mar. or Ap.; division of plants in Mar.

Dioscorea (Chinese Yam).—*Ord.* Dioscoreaceæ. Hardy tuberous-rooted perennial. *Nat.* China. *Int.* 1854. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white, insignificant. *Tubers* large, milky, edible, cooked like potatos. *Soil*, ordinary. *Position*, sunny, open. *Plant* small tubers 3 in. deep & 12 in. apart in Mar. *Lift* & store tubers in frost-proof place in Oct. *Propagate* by cuttings of stems 1 in. long with leaf attached, inserted ¼ in. deep in sandy soil under bell-glass in temp. 55° in sum.

Diosma (African Steel-bush).—*Ord.* Rutaceæ. Greenhouse evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1756. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, red, blue; Feb. to May. *Leaves* fragrant. *Compost*, two parts fibrous peat, one part loam, & silver sand. *Pot*, May, June. *Pinch* off points of vigorous shoots in July & Aug. *Water* very little Oct. to Mar., moderately afterwards. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 50° to 55°. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 55° to 65° in Mar., Ap. or May.

Diospyros (Date Plum, Persimmon).—*Ord.* Ebenaceæ. Hardy deciduous trees. *Nat.* S. Europe, N. America. *Int.* 1596. *Ht.* 20 to 30 ft. *Species* cultivated, 3. *Flowers*, red, white, yellow; June & July. *Fruit*, yellow, plum-shaped, sweet flavour. *Soil*, ordinary. *Position*, shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep outdoors in Sept. or Oct

Diphylleia (Umbrella-leaf).—*Ord.* Berberidaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1812. *Ht.* 1 ft. *Flowers*, white; June, Aug. *Berries*, blue; autn. *Soil*, peaty. *Position*, moist shady borders. *Plant*, Oct. to Mar. *Propagate* by division of plants in Mar. or Ap.

Diplacus (Glutinous Monkey-flower).—*Ord.* Scrophulariaceæ. Greenhouse evergreen flowering shrub. *Nat.* California. *Int.* 1837. *Species* cultivated, 1; variety, 1. *Flowers*, buff, orange, red, scarlet; all the year. *Compost*, two parts loam, one leaf-mould, decayed cow manure & sand. *Position*, well drained pots in light airy greenhouse; shoots trained on sticks or trellis. *Pot*, Mar. *Prune*, Feb. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Oct. to Mar. 40° to 50°; Mar. to Oct. 50° to 60°. *Propagate* by cuttings of shoots 2 in. long inserted in sandy soil under bell-glass in temp. 55° to 65° in Mar., or in cool greenhouse or window, in sum.

Dipladenia.—*Ord.* Apocynaceæ. Stove flowering climbers. Evergreen. *Nat.* Bolivia, Rio Janeiro, Organ Mountains. *Int.*, date unknown. *Ht.* 6 to 10 ft. *Species* cultivated, about 3; varieties several. *Flowers*, white, pink, rose, crimson, purple, orange; May to Sept. *Compost*, rough fibry peat & one-fourth silver sand. *Position*, well drained pots, with shoots trained to roof of stove or to wire trellis. *Pot*, Feb. or Mar. *Prune*, Oct., cutting away shoots that have flowered only. *Water* very little Oct. to Feb., moderately Feb. to Ap., freely afterwards. *Temp.*, Oct. to Feb. 55° to 60°; Feb. to Oct. 65° to 75°. *Propagate* by cuttings of young side shoots 3 in. long inserted in pots of sandy peat under bell-glass in temp. 80° in Feb., Mar. or Ap.

Dipsacus (Teasel, Shepherd's Rod, Shepherd's Staff).—*Ord.* Dipsaceæ. Hardy biennial herbs. *Nat.* Britain, Europe, Siberia. *Ht.* 3 to 6 ft. *Int.* (foreign species) 1683. *Species* cultivated, 3. *Flowers*, white, purple, lilac; July. *Soil*, ordinary. *Position*, wild garden, shrubbery borders. *Plant*, spring or autn. *Propagate* by seeds sown ⅛ in. deep in light soil outdoors in Mar. or Ap.

Disa (Flower of the Gods, Table Mountain Orchid).—*Ord.* Orchidaceæ. Greenhouse terrestrial orchids. *Nat.* Africa, Mascarene Islands. *Int.* 1825.

Ht. 1 to 3 ft. *Species* cultivated, 2. *Flowers*, rose, scarlet, golden, purple, white; June to Aug. *Compost*, equal parts peat & living sphagnum moss. *Position*, pots or pans, well drained, in shady cold greenhouse Sept. to June; shady corner outdoors June to Sept. *Pot*, Feb., keeping roots well above rim. *Water* moderately Sept. to Mar., freely afterwards. *Atmosphere* airy but not draughty. *Propagate* by seeds sown on living sphagnum moss under bell-glass in cold greenhouse in spring.

Dishley Willow (*Salix Russelliana*)—see Salix.

Dithering Grass (*Briza media*)—see Briza.

Dittany (*Dictamnus fraxinella*)—see Dictamnus.

Dittany of Crete (*Origanum dictamnus*)—see Origanum.

Diverse-leaved Rose (*Rosa diversifolia*)—see Rosa.

Diverse-leaved Kidney Bean (*Phaseolus diversifolius*)—see Phaseolus.

Dodder Grass (*Briza media*)—see Briza.

Dodecatheon (Silver Stars, American Cowslip).—*Ord.* Primulaceæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1744. *Ht.* 4 in. to 2 ft. *Species* cultivated, 2; varieties, 4. *Flowers*, red, crimson, purple, white, lilac, yellow; Ap. to June. *Soil*, light rich loamy. *Position*, sheltered beds on rockeries, or in borders under shade of trees. *Plant*, Jan. or Feb. *Top-dress* in Feb. with well decayed manure. *Pot culture: Compost*, equal parts loam, leaf-mould & sand. *Position*, 6-in. pots, well drained, in cold frame Nov. to Mar., then in unheated greenhouse till after flowering, when stand outdoors. *Pot*, Nov. *Water* moderately when new growth appears, freely when in full growth. *Propagate* by seeds sown in pots of light sandy soil in cold frame in Sept. or Mar.; division of crowns in Oct. or Mar.

Dog-berry (*Cornus sanguinea*)—see Cornus.

Dog Daisy (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Dog Eller (*Viburnum opulus*)—see Viburnum.

Dog Gowan (*Matricaria inodora*)—see Matricaria.

Dog Oak (*Acer campestre*)—see Acer.

Dog Rose (*Rosa canina*)—see Rosa.

Dog Rowan-tree (*Viburnum opulus*)—see Viburnum.

Dog Thistle (*Carduus arvensis*)—see Carduus.

Dog Tree (*Cornus sanguinea*)—see Cornus.

Dog Violet (*Viola canina* & *V. sylvatica*)—see Viola.

Dog-wood (*Cornus sanguinea*)—see Cornus.

Dog's Chamomile (*Matricaria chamomilla*)—see Matricaria.

Dog's Leek (*Scilla nutans*)—see Scilla.

Dog's Orache (*Chenopodium bullaria*)—see Chenopodium.

Dog's-tooth Violet (*Erythronium Dens-canis*)—see Erythronium.

Dog's-tooth-violet Tulip (*Tulipa erythronioides*)—see Tulipa.

Dolichos (Hyacinth Bean).—*Ord.* Leguminosæ. Greenhouse evergreen twiner. *Nat.* India. *Int.* 1776. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Flowers*, rose; July. *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots, shoots twining round trellis, posts or pillars. *Pot*, Feb. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in light soil in temp. 65° in Mar.; cuttings inserted in sandy soil under bell-glass in temp. 65° in Ap.

Dolphin Flower (*Delphinium consolida*)—see Delphinium.

Dombeya (Cape Bedding-flower).—*Ord.* Sterculeraceæ. Stove evergreen shrub. *Nat.* S. Africa, Mauritius. *Int.* 1820. *Ht.* 6 to 10 ft. *Species* cultivated, 5. *Flowers*, red, white, rose, fragrant; Feb. to Dec. *Compost*, equal parts peat, loam, charcoal & sand. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in sandy peat under bell-glass in temp. 80° to 85° in Ap.

Dominica Oak (*Ilex sideroxyloides*)—see Ilex.

Doodia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Australia, N. S. Wales, N. Caledonia, Ceylon, Sandwich Islands, New Zealand. *Int.* 1808. *Ht.* 6 to 12 in. *Species* cultivated, 5. *Compost*, two parts loam, one part leaf-mould, charcoal & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots in shady part of greenhouse. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by spores sown on surface of sandy peat in pans under bell-glass in temp. 65° to 75° at any time.

Doronicum (Leopard's-bane).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe, Siberia, Britain, Asia. *Int.* (foreign species) 1570. *Ht.* 1 to 3 ft. *Species* cultivated, 6; varieties several. *Flowers*, yellow; Ap. to Aug. *Soil*, ordinary, rich. *Position*, open borders, banks, or under shade of trees. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots in Oct. or Mar.

Doryanthes (Australian Giant Lily, Spear Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. Orn. foliage. *Nat.* N. S. Wales, Queensland. *Int.* 1800. *Ht.* 3 to 16 ft. *Species* cultivated, 2. *Flowers*, scarlet, red; July & Aug. *Compost*, equal parts loam & leaf-mould, little sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb., Mar. or Ap. *Water* very little Sept. to Ap., moderately afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 70°. *Propagate* by suckers removed from old plants & placed in small pots in temp. 55° to 65° at any time.

Doreas Wound-wort (*Solidago virgaurea angustifolia*)—see Solidago.

Dothering Grass (*Briza media*)—see Briza.

Dotted-flowered Gentian (*Gentiana punctata*)—see Gentiana.

Dotted-flowered St. John's-wort (*Hypericum punctatum*) — see Hypericum.

Dotted-fruited Thorn (*Cratægus punctata*)—see Cratægus.

Dotted-leaved Rhododendron (*Rhododendron punctatum*) — see Rhododendron.

Dotted Loose-strife (*Lysimachia punctata*)—see Lysimachia.

Dotted Sedge (*Carex punctata*)—see Carex.

Double Althæa-Frutex (*Hibiscus syriacus elegantissimus*) — see Hibiscus.

Double Arrow-head (*Sagittaria sagittæfolia fl.-pl.*)—see Sagittaria.

Double Balsam Fir (*Abies Fraseri*)—see Abies.

Double Bird's-foot Trefoil (*Lotus corniculatus*)—see Lotus.

Double-blossomed Bindweed (*Calystegia pubescens fl.-pl.*) — see Calystegia.

Double-blossomed Furze (*Ulex europæus plenus*)—see Ulex.

Double-blossomed Peach-tree (*Amygdalus persica vulgaris fl.-pl.*) —see Amygdalus.

Double-blossomed Plum-tree (*Prunus domestica fl.-pl.*) — see Prunus.

Double-blossomed Rose Campion (*Lychnis coronaria fl.-pl.*)—see Lychnis.

Double Cuckoo-flower (*Cardamine pratensis fl.-pl.*)—see Cardamine.

Double Dropwort (*Spiræa filipendula plena*)—see Spiræa.

Double Dyer's-weed (*Genista tinctoria fl.-pl.*)—see Genista.

Double-flowered Bramble (*Rubus discolor fl.-pl. & R. suffruticosa fl.-pl.*)—see Rubus.

Double-flowered Cherry (*Cerasus vulgaris fl.-pl.*)—see Cerasus.

Double-flowered Chinese Apple (*Pyrus spectabilis fl.-pl.*) — see Pyrus.

Double-flowered Chinese Plum-tree (*Prunus sinensis fl.-pl.*)—see Prunus.

Double-flowered Dwarf Almond-tree (*Amygdalus pumila fl.-pl.*)—see Amygdalus.

Double-flowered Fritillary (*Fritillaria meleagris plena*) — see Fritillaria.

Double-flowered Horse Chestnut (*Æsculus hippocastanum fl. pl.*—see Æsculus.

Double-flowered Jasminum (*Jasminum officinale fl.-pl.*) — see Jasminum.

Double-flowered Myrtle (*Myrtus communis var. belgica fl.-pl.*—see Myrtus.

Double-flowered Red Currant (*Ribes sanguineum plenum*)—see Ribes.

Double-flowered Red Horse Chestnut (*Æsculus hippocastanum rubra fl.-pl.*)—see Æsculus.

Double-flowered Seaside Catch-fly (*Silene maritima fl.-pl.*)—see Silene.

Double-flowered Soap-wort (*Saponaria caucasica fl.-pl.*) — see Saponaria.

Double French Dwarf Marigold (*Tagetes patula pumila fl.-pl.*)—see Tagetes.

Double Japanese Globe-flower (*Trollius japonicus fl.-pl.*) — see Trollius.

Double-leaved Butcher's-broom (*Ruscus hypoglossum*) — see Ruscus.

Double-leaved Sundew (*Drosera dichotoma*)—see Drosera.

Double Marsh Marigold (*Caltha palustris fl.-pl.*)—see Caltha.

Double Mayhead (*Matricaria inodora fl.-pl.*)—see Matricaria.

Double Persian Ranunculus (*Ranunculus asiaticus fl.-pl.*) — see Ranunculus.

Double Red Campion (*Lychnis dioica fl.-pl.*)—see Lychnis.

Double Red Daisy (*Bellis perennis rubra plena*)—see Bellis.

Double Scarlet Avens (*Geum coccineum fl.-pl.*)—see Geum.

Double Siberian Larkspur (*Delphinium grandiflorum fl.-pl.*)—see Delphinium.

Double Spruce (*Abies nigra*)—see Abies.

Double Spruce Fir (*Abies nigra*)—see Abies.

Double Tongue (*Ruscus hypoglossum*)—see Ruscus.

Double White Camellia (*Camellia alba plena*)—see Camellia.

Double White Daisy (*Bellis perennis alba plena*)—see Bellis.

Douglas Spruce Fir (*Abies Douglasi*)—see Abies.

Douglassi.—*Ord.* Primulaceæ. Hardy evergreen alpine plants. *Nat.* Rocky Mountains. *Int.* 1827. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, pink; Ap. *Compost*, equal parts peat & loam. *Position*, sunny rockery. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown 1/16 in. deep in sandy peat in cold frame, or under handlight in Mar. or Ap.

Douglas's Honeysuckle (*Lonicera Douglasi*)—see Lonicera.

Douglas's Milkweed (*Asclepsis Douglasi*)—see Asclepsis.

Douglas's Thorn (*Cratægus Douglasi*)—see Cratægus.

Dovaston's Yew-tree (*Taxus baccata var. Dovastoni*)—see Taxus.

Dovedale Moss (*Saxifraga hypnoides*)—see Saxifraga.

Dove-Dock (*Tussilago farfara*)—see Tussilago.

Dove Flower (*Peristeria elata*)—see Peristeria.

Dove Orchid (*Peristeria elata*)—see Peristeria.

Dove Plant (*Peristeria elata*)—see Peristeria.

Dove's-foot Geranium (*Geranium molle*)—see Geranium.

Down Thistle (*Onopordon acanthium*)—see Onopordon.

Downingia.—*Ord.* Campanulaceæ. Hardy annuals. *Nat.* California, N. W. America. *Int.* 1827. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, blue, white, yellow; June to Sept. *Soil*, ordinary, rich. *Position*, sunny beds or borders. *Sow* seeds where plants are to flower in Ap. *Thin* seedlings to 6 in. apart in May or June. *Pot culture: Compost*, equal parts loam, leaf-mould & sand. *Sow* seeds $\frac{1}{16}$ in. deep in 5 or 6-in. pots placed in temp. 55°, or in cold frame in Ap. or May. *Water* moderately. *Apply* weak liquid manure when plants are in flower. *Place* plants when in flower in cool greenhouse or window.

Downton Elm (*Ulmus glabra var. pendula*)—see Ulmus.

Down-leaved American Lime-tree (*Tilia americana var. pubescens*)—see Tilia.

Downy Alum Root (*Heuchera pubescens*)—see Heuchera.

Downy American Honeysuckle (*Lonicera pubescens*)—see Lonicera.

Downy Branched Aronia (*Pyrus pubescens*)—see Pyrus.

Downy Buckthorn (*Rhamnus pubescens*)—see Rhamnus.

Downy Cherry (*Cerasus pubescens*)—see Cerasus.

Downy Daphne (*Daphne pubescens*)—see Daphne.

Downy False Foxglove (*Gerardia flava*)—see Gerardia.

Downy-fruited Field Maple (*Acer campestre var. hebecarpum*)—see Acer.

Downy Honeysuckle (*Lonicera tormentilla*)—see Lonicera.

Downy Milfoil (*Achillea pubescens*)—see Achillea.

Downy Narrow-leaved American Lime-tree (*Tilia americana var. pubescens leptophylla*—see Tilia.

Downy Norway Maple (*Acer platanoides var. pubescens*)—see Acer.

Downy Plum-tree (*Prunus pubescens*)—see Prunus.

Downy Poplar (*Populus heterophylla*)—see Populus.

Downy Sanicle (*Sanicula europæa*)—see Sanicula.

Downy Saxifrage (*Saxifraga pubescens*)—see Saxifraga.

Downy Sea Lavender (*Statice puberula*)—see Statice.

Downy Sedge (*Carex tomentosa*)—see Carex.

Downy St. John's-wort (*Hypericum lanuginosum*)—see Hypericum

Downy Sun-rose (*Helianthemum pilosella*)—see Helianthemum.

Downy Thorn Apple (*Datura Metel*)—see Datura.

Downy Thyme (*Thymus lanuginosus*)—see Thymus.

Downy Willow (*Salix happonum*)—see Salix.

Downy Yellow Violet (*Viola pubescens*)—see Viola.

Draba (Whitlow Grass).—*Ord.* Cruciferæ. Hardy annual, biennial, & perennial alpine plants; perennials only worth growing. *Nat.* Europe, Caucasus, Tauria, Siberia, Lapland, Quito Andes, Switzerland. *Int.* 1731. *Ht.* 2 to 12 in. *Species* cultivated, 13. *Flowers*, yellow, white, violet, purple; Mar. to June. *Soil*, ordinary. *Position*, crevices in sunny rockeries, or on old walls. *Plant*, Mar. or Ap. *Propagate* by seeds sown where plants are to grow in Ap.; division of roots in Mar.

Dracæna (Dragon-plant, Dragon Blood-tree).—*Ord.* Liliaceæ. Stove & greenhouse evergreen plants. Orn. foliage. *Nat.* Africa, Canary Islands, Madagascar, Old Calabar, New Guinea, India, Java. *Int.* 1640. *Ht.* 2 to 40 ft. *Species* cultivated, 12; varieties numerous. *Flowers*, white or green; at all times of year. *Leaves*, variegated with various colours. *Compost*, two parts peat, one part loam & sand. *Position*, well drained pots in stove or greenhouse. *Pot*, Feb. to Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65° for greenhouse, 75° to 85° for stove; Sept. to Mar. 45° to 50° for greenhouse, 55° to 65° for stove. *Propagate* by seeds sown 1 in. deep in pots of light sandy soil in temp. 85° in Mar.; cuttings of main stems cut into lengths of 1 in. & partially buried horizontally in pots of sandy soil in Mar.; cuttings of fleshy roots, inserted 1 in. deep in pots of sandy soil in temp. 75° to 80° in Mar. or Ap.; stem-rooting, Mar. or Ap.; offsets inserted 2 in. deep at any time.

Dracocephalum (Dragon's-head, Moldavian Balm).—*Ord.* Labiatæ. Hardy perennial herbs. *Nat.* Siberia, Russia, Japan, Turkestan, Himalayas, Dauheri. *Int.* 1596. *Ht.* 6 in. to 2 ft. *Species* cultivated, 9; varieties several. *Flowers*, blue, white, purple, lilac, pink; May, June & July. *Soil*, light ordinary. *Position*, cool partially shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep in light sandy soil outdoors in Ap.; cuttings of young shoots inserted in light sandy soil under handlight or in cold frame in Ap. or May; division of roots in Oct., Nov. or Mar.

Dracunculus (Dragon Arum, Snake-plant).—*Ord.* Oroidiæ. Hardy tuberous-rooted perennial. *Nat.* S. Europe. *Int.* 1548. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers* (spathes), chocolate-brown; July. *Leaves*, flesh colour mottled with black, resembling skin of snake. *Soil*, sandy. *Position*, well drained sunny border. *Plant* tubers 3 in. deep in Oct. or Nov. *Propagate* by division of tubers in Oct. or Mar.

Dragon Arum (*Arum dracunculus*)—see Arum.

Dragon Gum-plant (*Pterocarpus draco*)—see Pterocarpus.

Dragon Plant (*Dracæna draco*)—see Dracæna.

Dragon Tree (*Dracæna draco*)—see Dracæna.

Dragon's-blood Palm (*Calamus draco*)—see Calamus.

Dragon's-blood-plant (*Calamus draco* & *Geranium Robertianum*)—see Calamus & Geranium.

Dragon's-blood-tree (*Dracæna draco*)—see Dracæna.

Dragon's-head Gladiole (*Gladiolus dracocephalus*)—see Gladiolus.

Dragon's-mouth (*Antirrhinum majus, Arum crinitum,* & *Epidendrum macrochilum*)—see Antirrhinum, Arum, & Epidendrum.

Dragon's-mouth Orchid (*Epidendrum macrochilum*)—see Epidendrum.

Dragon's-water (*Calla palustris*)—see Calla.

Dragon-wort (*Polygonum bistorta*)—see Polygonum.

Drias Plant (*Thapsia garganica*)—see Thapsia.

Drone Orchis (*Ophrys fucifera*)—see Ophrys.

Drooping Bog Sedge (*Carex limosa*)—see Carex.

Drooping Catchfly (*Silene pendula*)—see Silene.

Drooping-flowered Garlic (*Allium cernuum*)—see Allium.

Drooping Golden Rod (*Solidago nutans*)—see Solidago.

Drooping Gum-tree (*Eucalyptus Risdoni* & *E. viminalis*) — see Eucalyptus.

Drooping Larch (*Larix pendula*)—see Larix.

Drooping-leaved Adam's Needle (*Yucca aloifolia var. pendula*) —see Yucca.

Drooping Saxifrage (*Saxifraga cernua*)—see Saxifraga.

Drooping Star of Bethlehem (*Ornithogalum nutans*)—see Ornithogalum.

Drooping Tulip (*Fritillaria meleagris*)—see Fritillaria.

Dropwort (*Spiræa filipendula*)—see Spiræa.

Drosera (Sundew, Lustwort, Redwort, Youth-wort).—*Ord.* Droseraceæ. Greenhouse & hardy annual & perennial insectivorus plants. *Nat.* Australia, Britain, S. America, Cape of Good Hope, Nepaul. *Int.* (foreign species) 1811. *Species* cultivated, 6 perennials, 3 annuals. *Compost*, equal parts living sphagnum moss, peat, potsherds. *Position*, well drained pots partly immersed in pan of water & covered with bell-glass in cool greenhouse. *Water* daily. *Temp.* for exotic species, 50° to 55° Sept. to Mar.; 55° to 65° Mar. to Sept. *Propagate* by seeds sown on surface of living sphagnum moss & peat in well drained pots under bell-glass in temp. 55° to 65° at any time; division of the crowns in Mar. or Ap.; cuttings of roots $\frac{1}{2}$ to 1 in. long embedded in pan of moss & peat under bell-glass in temp. 65° to 75°.

Drosophyllum (Portuguese Sundew).—*Ord.* Droseraceæ. Greenhouse shrubby insectivorus plants. *Nat.* S. Portugal, Africa. *Int.* 1869. *Ht.* 3 to 12 in. *Species* cultivated, 1. *Soil*, light sandy loam. *Position*, well drained pots close to glass in light, airy greenhouse. *Water* once or twice Sept. to Ap., very little afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by seeds sown on the surface of sandy loam in well drained pots in spring.

Drumhead Cabbage (*Brassica oleracea capitata*)—see Brassica.

Drumhead Lettuce (*Lactuca capitata*)—see Lactuca.

Drummond's Avens (*Dryas Drummondi*)—see Dryas.

Drummond's Side-saddle-flower (*Sarracenia Drummondi*)—see Sarracenia.

Dryas (Mountain Avens).—*Ord* Rosaceæ. Hardy evergreen trailing plants. *Nat.* Britain, N. Europe, N. America. *Int.* (foreign species) 1800. *Ht.* 3 in. *Species* cultivated, 2. *Flowers*, golden yellow, white; June. *Soil*, moist peat. *Position*, sunny rockery or borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in shallow pans or boxes in cold frame Ap. of May; cuttings of shoots 2 in. long inserted in sandy soil in cold frame in autn.; division of plants in Oct., Nov. or Mar.

Drymoglossum (Wood Tongue Fern).—*Ord.* Filices. Stove evergreen creeping fern. *Nat.* Himalayas, E. Indies, China, Japan, Borneo. *Int.* 1828. *Species* cultivated, 1. *Compost*, equal parts loam, peat, leaf-mould, pounded charcoal & sand. *Pot or plant*, Feb., Mar. or Ap. *Position*, well drained shallow pans or beds in Wardian case. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of sandy peat in temp. 65° to 75° at any time; division of rhizomes in Feb. or Mar.

Drypis.—*Ord.* Caryophyllaceæ. Hardy herbaceous perennial. *Nat.* S. Europe. *Int.* 1775. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, pink, white; June. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct., Nov., Mar., Ap. *Propagate* by seeds sown in light soil in cold frame or under hand-light in Mar. or Ap.; cuttings inserted in sandy soil under hand-light or in cold frame in Sept. or Oct.

Duck's-foot (*Podophyllum peltatum*)—see Podophyllum.

Dudder Grass (*Adiantum capillus-veneris*)—see Adiantum.

Duke of Argyll's Tea-plant (*Lycium barbarum*)—see Lycium.

Dumb Cane (*Caladium seguinum*)—see Caladium.

Dumortier's Day Lily (*Hemerocallis Dumortieri*) — see Hemerocallis.

Dumpling (*Mesembryanthemum obcordellum*)—see Mesembryanthemum.

Durmast Oak (*Quercus pubescens*)—see Quercus.

Dusky-flowered Geranium (*Geranium phœum*)—see Geranium.

Dusty Miller (*Primula auricula*)—see Primula.

Dutch Agrimony (*Eupatorium cannabinum*)—see Eupatorium.

Dutch Beech (*Populus alba*)—see Populus.

Dutch Elm (*Ulmus suberosa*)—see Ulmus.

Dutch Grass (*Panicum molle*)—see Panicum.

Dutch Honeysuckle (*Lonicera periclymenum belgica*)—see Lonicera.

Dutch Mice (*Lathyrus tuberosus*)—see Lathyrus.

Dutch Myrtle (*Myrica Gale*)—see Myrica.

Dutchman's Butter (*Cassia glandulosa*)—see Cassia.

Dutchman's Breeches (*Dicentra cucullaria*)—see Dicentra.

Dutchman's Pipe (*Aristolochia sipho*)—see Aristolochia.

Dwarf Almond-tree (*Amygdalus nana*)—see Amygdalus.

Dwarf Alpine Candytuft (*Iberis petrœa*)—see Iberis.

Dwarf Amellus Aster (*Aster bessarabicus*)—see Aster.

Dwarf American Birch (*Betula glandulosa*)—see Betula.

Dwarf American Iris (*Iris verna*)—see Iris.

Dwarf American Raspberry (*Rubus triflorus*)—see Rubus.

Dwarf Annual Sunflower (*Helianthus indicus*)—see Helianthus.

Dwarf Ash (*Fraxinus excelsior var. nana*)—see Fraxinus.

Dwarf Bellflower (*Campanula pumila*)—see Campanula.

Dwarf Birch (*Betula nana*)—see Betula.

Dwarf Blue-berry (*Vaccinium pennsylvanicum*)—see Vaccinium.

Dwarf Blue Lobelia (*Lobelia azurea nana*)—see Lobelia.

Dwarf Blue and White Lobelia (*Lobelia Paxtoniana*) — see Lobelia.

Dwarf Box-tree (*Buxus sempervirens suffruticosa*)—see Buxus.

Dwarf Brazilian Tree Fern (*Blechnum braziliense*)—see Blechnum.

Dwarf Buckthorn (*Rhamnus pumilus*)—see Rhamnus.

Dwarf Daffodil (*Narcissus minimus*) - see Narcissus.

Dwarf Cherry (*Cerasus pumila*)—see Cerasus.

Dwarf Chinese Arbor-vitæ (*Biota orientalis elegantissima*) — see Biota.

Dwarf Chinese Banana-tree (*Musa Cavendishi*)—see Musa.

Dwarfest Cinquefoil (*Potentilla minima*) – see Potentilla.

Dwarf Cinquefoil (*Potentilla nana*)—see Potentilla.

Dwarf Close-growing Lobelia (*Lobelia erinus compacta*) — see Lobelia.

Dwarf Crane's-bill (*Geranium subcaulescens*)—see Geranium.

Dwarf Creeping Fig-tree (*Ficus repens var. minima*)—see Ficus.

Dwarf Crimson-flowered Bramble (*Rubus arcticus*)—see Rubus.

Dwarf Crocus (*Crocus pusillus*)—see Crocus.

Dwarf Cud-weed (*Gnaphalium supinum*)—see Gnaphalium.

Dwarf Daffodil (*Narcissus minor*)—see Narcissus.

Dwarf Elder (*Sambucus humilis* & *Pilea grandis*)—see Sambucus & Pilea.

Dwarf Elm (*Ulmus campestris var. nana*)—see Ulmus.

Dwarf Eryngo (*Eryngium pusillum*)—see Eryngium.

Dwarf Evening Primrose (*Œnothera pumila*)—see Œnothera.

Dwarf Everlasting-flower (*Helichrysum bracteatum nanum*)—see Helichrysum.

Dwarf Furze (*Ulex nanus*)—see Ulex.

Dwarf Glaucous Azalea (*Azalea glaucous*)—see Azalea.

Dwarf Glaucous-leaved Torch Lily (*Tritoma uvaria glaucescens*)—see Tritoma.

Dwarf Golden Holly (*Ilex crenata variegata*)—see Ilex.

Dwarf Golden Rod (*Solidago virgaurea var. cambrica*)—see Solidago.

Dwarf Guelder Rose (*Viburnum opulus nanum*)—see Viburnum.

Dwarf Honeysuckle (*Cornus suecica*)—see Cornus.

Dwarf Indian Crocus (*Pleione humilis*)—see Pleione.

Dwarf Indian Juniper (*Juniperus recurva*)—see Juniperus.

Dwarf Iris (*Iris pumila*)—see Iris.

Dwarf Jacob's-ladder (*Polemonium humile*)—see Polemonium.

Dwarf Japanese Holly (*Ilex crenata*)—see Ilex.

Dwarf Juniper (*Juniperus nanus*)—see Juniperus.

Dwarf Laburnum-tree (*Cytisus nanus*)—see Cytisus.

Dwarf Lake Iris (*Iris lacustris*)—see Iris.

Dwarf Lobelia (*Lobelia pumila*)—see Lobelia.

Dwarf Madwort (*Alyssum olympicum*)—see Alyssum.

Dwarf Medlar (*Pyrus chamæmespilus*)—see Pyrus.

Dwarf Marigold (*Tagetes tenuifolia*)—see Tagetes.

Dwarf Mock Orange (*Philadelphus coronarius*)—see Philadelphus.

Dwarf Moly (*Allium chamæmoly*)—see Allium.

Dwarf Mulberry-tree (*Morus alba var. pumila*)—see Morus.

Dwarf Nasturtium (*Tropæolum minus*)—see Tropæolum.

Dwarf Nettle-tree (*Celtis pumila*)—see Celtis.

Dwarf Orchis (*Orchis ustulata*)—see Orchis.

Dwarf Pentstemon (*Pentstemon humilis & P. glabra*)—see Pentstemon.

Dwarf Perennial Lupine (*Lupinus nutkatensis*)—see Lupinus.

Dwarf Red Cedar (*Juniperus virginiana var. humilis*)—see Juniperus.

Dwarf Red-flowered Buck-eye (*Pavia rubra var. humilis*)—see Pavia.

Dwarf Red Larkspur (*Delphinium nudicaule*)—see Delphinium.

Dwarf Red and Yellow-flowered Buck-eye (*Pavia discolor*)—see Pavia.

Dwarf Rock Buckthorn (*Rhamnus rupestris*)—see Rhamnus.

Dwarf Rock Rose (*Cistus lusitanicus*)—see Cistus.

Dwarf Rosy-purple Tulip (*Tulipa pulchella*)—see Tulipa.

Dwarf Scarlet Begonia (*Begonia Davisi*)—see Begonia.

Dwarf Sea Lavender (*Statice nana*)—see Statice.

Dwarf Sedge (*Carex humilis*)—see Carex.

Dwarf Sheep's-bit-scabious (*Jasione humilis*)—see Jasione.

Dwarf Siberian Elm (*Ulmus pumila*)—see Ulmus.

Dwarf Small Daisy (*Bellium minutum*)—see Bellium.

Dwarf Spiderwort (*Tradescantia pilosa*)—see Tradescantia.

Dwarf Spindle-tree (*Euonymus nanus*)—see Euonymus.

Dwarf Spruce (*Abies excelsa var. pygmæa*)—see Abies.

Dwarf Spurge (*Euphorbia exigua*)—see Euphorbia.

Dwarf Striped Marigold (*Tagetes signata pumila*)—see Tagetes.

Dwarf Sumach (*Rhus pumila & R. copallina*)—see Rhus.

Dwarf Thyme-leaved Willow (*Salix serpyllifolia*)—see Salix.

Dwarf Torch Lily (*Tritoma pumila*)—see Tritoma.

Dwarf Trailing Fuchsia (*Fuchsia minima*)—see Fuchsia.

Dwarf Tufted Sunflower (*Actinella scaposa*)—see Actinella.

Dwarf Water Lily (*Villarsia nymphæoides*)—see Villarsia.

Dwarf Wild American Rose (*Rosa lucida*)—see Rosa.

Dwarf Willow (*Salix herbacea*)—see Salix.

Dwarf Wood Sorrel (*Oxalis tenella*)—see Oxalis.

Dwarf Yellow Tulip (*Tulipa celsiana*)—see Tulipa.

Dyckia.—*Ord.* Bromeliaceæ. Greenhouse succulent orn. foliage plants. *Nat.* Brazil. *Int.* 1839. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, yellow, orange; Feb. to Aug. *Leaves*, succulent, greyish green. *Compost*, two parts loam, one part leaf-mould, & little sand. *Position*, pots in light, airy greenhouse; outside June to Sept. *Water* moderately Ap. to Aug., little afterwards. *Repot* every five or six years; good drainage essential. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by offsets or suckers inserted in small pots in greenhouse at any time.

Dye Pine-tree (*Pinus Webbiana*)—see Pinus.

Dyer's Broom (*Genista tinctoria*)—see Genista.

Dyer's Buckthorn (*Rhamnus tinctorius*)—see Rhamnus.

Dyer's Fig-tree (*Ficus tinctoria*)—see Ficus.

Dyer's Mulberry-tree (*Morinda tinctoria*)—see Morinda.

Dyer's Oak (*Quercus tinctoria*)—see Quercus.

Dyer's Oleander (*Nerium tinctorium*)—see Nerium.

Dyer's Tick-seed (*Coreopsis tinctoria*)—see Coreopsis.

Eagle's-claw Maple (*Acer platanoides var. laciniatum*)—see Acer.

Eagle Fern (*Pteris aquilina*)—see Pteris.

Eardrops (*Fuchsia splendens*)—see Fuchsia.

Ear-leaved Primrose (*Primula auriculata*)—see Primula.

Ear-leaved Tick-seed (*Coreopsis auriculata*)—see Coreopsis.

Ear-leaved Umbrella-tree (*Magnolia Fraseri*)—see Magnolia.

Early American Saxifrage (*Saxifraga virginiensis*)—see Saxifraga.

Early-blooming Rhododendron (*Rhododendron præcox*) — see Rhododendron.

Early Bulbous Iris (*Iris reticulata*)—see Iris.

Early-flowering Borage (*Borago orientalis*)—see Borago.

Early-flowering Broom (*Genista præcox*)—see Genista.

Early-flowering Honeysuckle (*Lonicera fragrantissima*) — see Lonicera.

Early-flowering Indian Crocus (*Pleione lagenaria*)—see Pleione.

Early-flowering Snowdrop (*Galanthus præcox*)—see Galanthus.

Early-flowering Squill (*Scilla bifolia*)—see Scilla.

Early-flowering Tickseed (*Coreopsis præcox*)—see Coreopsis.

Early-flowering White Rock-cress (*Arabis albida*) - see Arabis.

Early Forget-me-not (*Myosotis dissitiflora*) —see Myosotis.

Early Gladiole (*Gladiolus præcox*)—see Gladiolus.

Early Hill Forget-me-not (*Myosotis Collina*)—see Myosotis.

Early Meadow-rue (*Thalictrum dioicum*)—see Thalictrum.

Early White-flowered Saxifrage (*Saxifraga Burseriana*) — see Saxifraga.

Earning Grass (*Pinguicula vulgaris*)—see Pinguicula.

Earth Smoke (*Fumaria officinalis*)—see Fumaria.

Earthquakes (*Briza media*)—see Briza.

East Indian Arrow-root-plant (*Curcuma angustifolia*)—see Curcuma.

East Indian Basil (*Ocymum gratissimum*)—see Ocymum.

East Indian Bay-tree (*Persea indica*)—see Persea.

East Indian Birch (*Betula Bhojputtra*)—see Betula.

East Indian Bloodwood (*Lagerstræmia Reginæ*) — see Lagerstræmia.

East Indian Caoutchouc-tree (*Ficus elasticus*)—see Ficus.

East Indian Cedar (*Cedrus deodara*)—see Cedrus.

East Indian Coral-tree (*Erythrina indica*)—see Erythrina.

East Indian Cork-tree (*Bignonia suberosa*)—see Bignonia.

East Indian Elk's-horn Fern (*Platycerium biforme*)—see Platycerium.

East Indian Elm (*Ulmus integrifolia*)—see Ulmus.

East Indian Flax (*Linum trigynum*)—see Linum.

East Indian Galingale (*Kæmpferia Galanga*)—see Kæmpferia.

East Indian Guava-tree (*Psidium indicum*)—see Psidium.

East Indian Hawthorn (*Raphiolepis indica*)—see Raphiolepis.

East Indian Hemp (*Cannabis sativa* & *Hibiscus cannabinus*)—see Cannabis & Hibiscus.

East Indian Honey Locust-tree (*Gleditschia indica*) — see Gleditschia.

East Indian Knotweed (*Polygonum brunonis*)—see Polygonum.

East Indian Matting Grass (*Cyperus corymbosa*)—see Cyperus.

East Indian Mugwort (*Artemisia argentea*)—see Artemisia.

East Indian Mulberry-tree (*Morus indica*)—see Morus.

East Indian Musk Mallow (*Hibiscus moschatus*)—see Hibiscus.

East Indian Periwinkle (*Vinca rosea*)—see Vinca.

East Indian Pitcher-plant (*Nepenthes sanguinea*)—see Nepenthes.

East Indian Poke (*Phytolacca acinosa*)—see Phytolacca.

East Indian Red Water Lily (*Nymphæa rubra*)—see Nymphæa.

East Indian Rose Bay-tree (*Tabernæmontana coronaria*) — see Tabernæmontana.

East Indian Tamarisk-tree (*Tamarix indica*)—see Tamarix.

East Indian Thorn Apple (*Datura alba*)—see Datura.

East Indian Velvet-leaf (*Tournefortia argentea*) — see Tournefortia.

East Indian Yellow-wood (*Podocarpus latifolia*)—see Podocarpus

Easter Bells (*Stellaria Holostea*)—see Stellaria.

Easter Flower (*Poinsettia pulcherrima*)—see Poinsettia.

Eastern Daffodil (*Narcissus orientalis*)—see Narcissus

Eastern Guelder Rose (*Viburnum orientale*)—see Viburnum.

Eastern Honeysuckle (*Lonicera orientalis*)—see Lonicera.

Eastern Madwort (*Alyssum orientale*)—see Alyssum.

Eastern Plane-tree (*Platanus orientalis*)—see Platanus.

Eastern Spruce (*Abies orientalis*)—see Abies.

Eastern Thorn (*Cratægus orientalis*)—see Cratægus.

Ebony Spleenwort (*Asplenium ebeneum*)—see Asplenium.

Ebony Tree (*Diospyrus ebenum*)—see Addenda

Ecballium (Squirting Cucumber). — *Ord.* Cucurbitaceæ. Hardy trailing annual. Orn. fruiting. *Nat.* Mediterranean region. *Int.* 1548. *Species* cultivated, 1. *Flowers*, yellow; June. *Fruit*, green; Aug. *Soil*, ordinary. *Position*, sunny beds, borders, or banks. *Plant*, June. *Propagate* by seeds sown ½ in. deep in light soil in temp. 55° in Ap. or May.

Eccle Grass (*Pinguicula vulgaris*)—see Pinguicula.

Eccremocarpus (Chilian Glory-flower).—*Ord.* Bignoniaceæ. Half-hardy evergreen climbing plants. *Nat.* Chili, Peru. *Int.* 1825. *Ht.* 15 to 20 ft. *Species* cultivated, 2. *Flowers*, scarlet, orange-red, yellow; July to Oct. *Soil*, light rich. *Position*, against south or south-west walls. *Plant*, June. *Protect* roots in Oct. by layer of cinder ashes on surface of soil; branches in severe weather by mats. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of light sandy soil in temp. 65° to 75° in Mar. or Ap.

Eccremocarpus Vine (*Eccremocarpus scaber*)—see Eccremocarpus.

Echeveria.—*Ord.* Crassulaceæ. Greenhouse & half-hardy succulent plants. *Nat.* California, Mexico, S. Africa. *Int.* 1796. *Ht.* 6 to 24 in. *Species* cultivated, 16. *Flowers*, yellow, red, scarlet; May to Dec. *Indoor culture: Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, pots, well drained, close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely Mar. to Sept., little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 60° to 70°. *Outdoor culture: Soil*, ordinary. *Position*, edgings to sunny flower beds or borders, or in groups on rockeries. *Plant*, May, close together to form edgings. *Lift* in Oct., place in pots or boxes, & store in cold frame or greenhouse during winter. *Propagate* by seeds sown on surface of above soil in well drained pots in temp. 55° to 65° in Mar.; cuttings of leaves or side shoots with base inserted in sandy soil in well drained pots in Aug. in temp. 55° to 65°. Do not water cuttings or leaves until they begin to shrivel.

Echinacea (Black Sampson, Purple Cone-flower).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* U.S. America. *Int.* 1799. *Ht.* 2 to 4 ft. *Species* cultivated, 2; varieties 2. *Flowers*, reddish purple, rose; June to Oct. *Soil*, deep rich light loam. *Position*, well drained sunny borders or rockeries. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in boxes of light soil in temp. 50° to 55° in Mar., or outdoors in sunny position in Ap.; division of roots in Oct., Mar. or Ap.

Echinocactus (Fly Cactus, Hedge-hog Cactus, Silvery Cactus, Simpson's Cactus, Hardy Cactus).—*Ord.* Cactaceæ. Greenhouse succulent plants. *Nat.* Bolivia, Brazil, Mexico. *Int.* 1796. *Ht.* 3 to 24 in. *Species* cultivated, 39. *Flowers*, yellow, white, rose, purple, green; Ap. to Aug. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. *Position*, well drained pots in sunny greenhouse or window. *Repot* every three or four years in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kinds in Ap.

Echinops (Globe Thistle).—*Ord.* Compositæ. Hardy perennials. *Nat.* Australia, S.E. Europe, W. Asia. *Int.* 1570. *Ht.* 3 to 7 ft. *Species* cultivated, 2; variety 1. *Flowers*, blue, white; June to Aug. *Soil*, ordinary. *Position*, well drained sunny borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny position outdoors in Ap.; division of roots in Oct., Nov. or Mar.

Echinopsis (Hedge-hog Cactus).—*Ord.* Cactaceæ. Greenhouse succulent plants. *Nat.* Chili, Bolivia, Brazil, Peru, Mendoza. *Int.* 1835. *Ht.* 6 to 12 in. *Species* cultivated, 7; varieties, 4. *Flowers*, brown, creamy white, rose, yellow, white, fragrant; Jan. to July. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. *Position*, well drained pots in sunny greenhouse or window. *Repot* every three or four years in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil, kept barely moist in sum.; grafting on common kinds in Ap.

Echites (Savannah-flower).—*Ord.* Apocynaceæ. Stove evergreen twining shrubs. *Nat.* Brazil, S. America, W. Indies. *Int.* 1733. *Ht.* 5 to 10 ft. *Species* cultivated, 6; varieties, several. *Flowers*, chocolate, purple, red, rose, yellow; white; July to Sept. *Compost*, rough fibry peat & one-fourth silver sand.

Position, well drained pots, with shoots trained to roof of stove or to wire trellis. *Pot*, Feb. or Mar. *Prune*, Oct., cutting away shoots that have flowered only. *Water* very little Oct. to Feb., moderately Feb. to Ap., freely afterwards. *Temp.*, Oct., 65° to 75°; Mar. to Oct., 75° to 85°. *Propagate* by cuttings of young side shoots 3 in. long inserted in pots of sandy peat under bell-glass in temp. 80° in Feb., Mar. or Ap.

Echium (Viper's Bugloss).—*Ord.* Boraginaceæ. Hardy annuals & biennials. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1683. *Ht.* 6 in. to 4 ft. *Species* cultivated, 1 annual, 1 biennial. *Flowers*, red, violet, purple; July to Sept. *Soil*, ordinary. *Position*, sunny well drained borders or rockeries. *Plant*, Aug. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny position outdoors in Ap. or Aug.

Edder-wort (*Arum dracontium*)—see Arum.

Edelweiss (*Leontopodium alpinum*)—see Leontopodium.

Edging Barberry (*Mahonia repens*)—see Mahonia.

Edible Fern (*Pteris aquilina*)—see Pteris.

Edible-fruited Barberry (*Berberis dulcis*)—see Berberis.

Edible-rooted Caraway (*Carum Gairdneri*)—see Carum.

Edwardsia (New Zealand Laburnum).—*Ord.* Leguminosæ. Half-hardy deciduous shrubs. *Nat.* New Zealand. *Int.* 1772. *Ht.* 6 to 12 ft. *Species* cultivated, 2. *Flowers*, yellow; May & June. *Soil*, deep rich loam. *Position*, against south or west wall. *Protect* in severe weather with mats. *Plant*, Oct. to Feb. *Prune* into shape in Feb. *Greenhouse culture: Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Oct. or Nov. *Water* freely Ap. to Oct., very little afterwards. *Prune*, Feb. to Mar. *Temp.*, Oct. to Ap. 40° to 45°; Ap. to Oct. 50° to 65°. *Position*, greenhouse Oct. to May, outdoors May to Oct. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 55° in Ap.; cuttings inserted in sandy soil in temp. 55° in Mar.

Egg-bearing Gourd (*Cucurbito pepo*)—see Cucurbito.

Egg-berry (*Prunus padus*)—see Prunus.

Egg-plant (*Solanum melongena*)—see Solanum.

Eggs-and-Bacon (*Linaria vulgaris* & *Lotus corniculatus*) — see Linaria & Lotus.

Eggs-and-Bacon Daffodil (*Narcissus incomparabilis fl.-pl. var. Orange phœnix*)—see Narcissus.

Eglantine (*Rosa rubiginosa*)—see Rosa.

Egyptian Bean (*Nelumbium speciosum*)—see Nelumbium.

Egyptian Ginger (*Colocasia esculenta*)—see Colocasia.

Egyptian Kidney Bean (*Dolichos Lab-lab*)—see Dolichos.

Egyptian Lily (*Richardia æthiopica*)—see Richardia.

Egyptian Lotus (*Nymphæa lotus*)—see Nymphæa.

Egyptian Privet (*Lawsonia alba*)—see Lawsonia.

Egyptian Rose (*Scabiosa atropurpurea*)—see Scabiosa.

Egyptian St. John's-wort (*Hypericum ægyptiacum*)—see Hypericum.

Egyptian Thorn (*Cratægus pyracantha* & *Acacia vera*)—see Cratægus & Acacia.

Egyptian Water Lily (*Nymphæa lotus*)—see Nymphæa.

Eight-petalled Begonia (*Begonia octopetala*)—see Begonia.

Elæagnus (Oleaster, Wild Olive, Missouri Silver-tree).—*Ord.* Elæagnaceæ. Hardy deciduous & evergreen shrubs. Orn. foliage. *Nat.* Orient, Japan, S. Europe, N. America. *Int.* 1633. *Ht.* 3 to 20 ft. *Species* cultivated, 6; varieties, several. *Flowers*, yellow, white, green, fragrant; May to Sept. *Leaves*, green or variegated with white. *Soil*, ordinary. *Position*, open sheltered dryish borders, or against south or west walls. *Plant* deciduous species in Oct., Nov. or Dec.; evergreen in Ap. or Sept. *Propagate* by seeds sown ⅛ in. deep in boxes of light soil in temp. 55° in Mar.; cuttings inserted in sandy soil in cold frame in Sept.; layering in Oct.

Elatine Bell-flower (*Campanula Erinus*)—see Campanula.

Elder (*Sambucus nigra*)—see Sambucus.

Elderberry (*Sambucus nigra*)—see Sambucus.

Elder-scented Iris (*Iris sambucina*)—see Iris

Elder-scented Orchis (*Orchis sambucina*)—see Orchis.

Elecampane (*Inula helenium*)—see Inula.

Elegant Bell-flower (*Campanula elegans*)—see Campanula.

Elegant-flowered American Cowslip (*Dodecatheon elegans*)—see Dodecatheon.

Elegant-flowered Tulip (*Tulipa elegans*)—see Tulipa.

Elegant Larkspur (*Delphinium elegans*)—see Delphinium.

Elegant Mariposa Lily (*Calochortus elegans*)—see Calochortus.

Elegant Starwort (*Aster elegans*)—see Aster.

Elegant St. John's-wort (*Hypericum elegans*)—see Hypericum.

Elephant's Ear (*Begonia Rex*)—see Begonia.

Elephant's Foot (*Testudinaria elephantipes*)—see Testudinaria.

Elephant Pumpkin (*Cucurbita maxima*)—see Cucurbita.

Elephant Thistle (*Silybum eburneum*)—see Silybum.

Elephant Thorn (*Acacia tomentosa*)—see Acacia.

Elephant's-tooth Cactus (*Mammillaria elephantidens*)—see Mammillaria.

Elephant's-trunk Plant (*Martynia proboscidea*)—see Martynia.

Elephant's Vine (*Cissus latifolia*)—see Cissus.

Eleven-o'Clock Lady (*Ornithogalum umbellatum*)—see Ornithogalum.

Elf Dock (*Inula helenium*)—see Inula.

Elizabeth's Catchfly (*Silene Elizabethæ*)—see Silene.

Elk-bark (*Magnolia glauca*)—see Magnolia.

Elk's-horn Fern (*Platycerium alcicorne*)—see Platycerium.

Elk Tree (*Andromeda arborea*)—see Andromeda.

Elliptic-leaved Ash (*Fraxinus americana var. elliptica*)—see Fraxinus.

Elm (*Ulmus campestris*)—see Ulmus.

Elm-leaved Sumach (*Rhus coriaria*)—see Rhus.

Elwes's Crocus (*Crocus Elwesi*)—see Crocus.

Elwes's Snowdrop (*Galanthus Elwesi*)—see Galanthus.

Embothrium.—*Ord.* Proteaceæ. Half-hardy evergreen shrub. *Nat.* S. America. *Int.* 1851. *Ht.* 3 to 8 ft. *Species* cultivated, 1. *Flowers*, orange-scarlet; June to Sept. *Soil*, sandy peat. *Position*, against south walls outdoors S. of England, pots in cold greenhouse N. of England. *Protect* with mats in severe weather. *Plant*, Mar. or Ap. *Greenhouse culture: Repot*, Mar. *Prune*, Mar. *Water* moderately Oct. to Ap., freely in sum. *Place* plants in sunny position outdoors May to Oct. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 55° in spring.

Emodi Pine-tree (*Pinus longifolia*)—see Pinus.

Empetrum (Black-berried Heath, Crake-berry, Crow-berry, Moonog Heather).—*Ord.* Empetraceæ, Hardy evergreen fruiting shrub. *Nat.* Britain, Chili, Fuegia. *Int.* (foreign variety) 1833. *Ht.* 6 to 12 in. *Species* cultivated, 1; variety, 1. *Flowers*, pink, purple; May. *Berries*, black, red, edible. *Soil*, boggy. *Position*, damp, moist, shady. *Plant*, Mar. or Ap. *Propagate* by cuttings inserted in June, July or Aug. in sandy peat under bell-glass in shady position.

Empetrum-leaved St. John's-wort (*Hypericum empetrifolium*)—see Hypericum.

Enceno Oak (*Quercus agrifolia*)—see Quercus.

Encephalartos (Caffre Bread).—*Ord.* Cycadaceæ. Greenhouse evergreen plants. Orn. foliage. *Nat.* S. Africa. *Int.* 1835. *Ht.* 6 to 18 ft. *Species* cultivated, 13. *Leaves*, feather-shaped, bluish green. *Compost*, two parts good loam, one part sand. *Position*, well drained pots in light part of greenhouse. *Repot*, Mar. *Water* liberally Ap. to Aug., very little afterwards. *Growth* occasionally stationary for a few years. *Temp.*, Sept. to Ap. 55° to 60°; Ap. to Sept. 65° to 75°. *Propagate* by seeds sown ½ in. deep in light soil in temp. 85° to 95° in Mar. or Ap.

Endive (*Cichorium endivia*). — *Ord.* Compositæ. Hardy annual. Esculent-leaved salad vegetable. *Nat.* E. Indies. *Int.* 1548. *Ht.* 3 to 6 in. *Species* cultivated, 1; varieties many. *Flowers*, blue; July & Aug. *Soil*, light rich. *Position*, open garden or on south or west borders. *Sow* seeds ¼ in. deep in drills 4 in. apart in June for early crop, July for main crop, Aug. for late crop. *Transplant* seedlings when they have formed four leaves 12 in. apart each way. *Water* freely in dry weather. *Blanch* early crop in Aug., main crop in Sept., late crop in Oct. by covering each plant by slate, tile, board, or inverted pot with drainage hole plugged. *Lift* remaining plants in Nov. & store close together in cold frame, covering them with dry leaves to ensure blanching. *Seed* two or three years old yield the dwarfest plants.

Endres's Bladder-wort (*Utricularia Endresi*)—see Utricularia.

Endres's Crane's-bill (*Geranium Endresi*)—see Geranium.

Engelmann's Spruce (*Abies commutata*)—see Abies.

English Arrow-root-plant (*Solanum tuberosum*)—see Solanum.

English Elm (*Ulmus campestris*)—see Ulmus.

English Iris (*Iris xiphioides*)—see Iris.

English Maidenhair (*Asplenium trichomanes*)—see Asplenium.

English Stonecrop (*Sedum anglicum*)—see Sedum.

English Sundew (*Drosera anglica*)—see Drosera.

English Truffle (*Tuber æstivum*)—see Tuber.

Entire-leafleted Hickory (*Carya integrifolia*)—see Carya.

Entire-leaved American Cowslip (*Dodecatheon integrifolium*)—see Dodecatheon.

Entire-leaved Clematis (*Clematis integrifolia*)—see Clematis.

Entire-leaved Primula (*Primula integrifolia*)—see Primula.

Epacris (Australian Heath, Tasmanian Heath).—*Ord.* Epacridaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia, New Caledonia, New Zealand. *Int.* 1803. *Ht.* 1 to 4 ft. *Species* cultivated, 7; varieties many. *Flowers*, pink, red, white, scarlet, rose, orange; Jan. to May. *Compost*, three-fourths fibry peat, one-fourth silver sand. *Position*, light airy greenhouse Sept. to July, sunny place outdoors July to Sept. *Repot*, Ap., May, or June; good drainage essential. *Prune* shoots of erect kinds to within 1 in. of base directly after flowering; pendulous kinds about half-way. *Water* moderately at all times. *Syringe* plants daily Mar. to July. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to July, 55° to 60°. *Stimulants* not essential. *Propagate* by seeds sown immediately they ripen on surface of sandy peat under bell-glass in temp. 55°; cuttings of ends of shoots inserted in pots of sandy peat covered with bell-glass placed in cool greenhouse in Aug. or Ap.

Ephedra (Shrubby Horse-tail, Sea Grape).—*Ord.* Gnetaceæ. Hardy evergreen trailing shrubs. Orn. fruited. *Nat.* S. Europe. *Int.* 1750. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, white; June to Aug. *Berries*, red; Aug. to Sept.; edible. *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Sept., Mar., or Ap. *Propagate* by seeds sown 1 in. deep outdoors in Sept. or Oct. ' layering shoots in Oct.

Epidendrum (Dragon's-mouth Orchid, Tree Orchid).—*Ord.* Orchidaceæ. Stove & greenhouse epiphytal orchids. *Nat.* Bolivia, Mexico, Brazil, Costa Rica, New Grenada, Guatemala, Peru, Trinidad, Panama, Pernambuco, Central America, Columbia. *Int.* 1835. *Ht.* 1 to 4 ft. *Species* cultivated, 13 stove, 20 greenhouse. *Flowers*, white, yellow, orange, rose, crimson, lilac, purple, fragrant; Mar. to Nov. *Compost*, two parts fibry peat, one part chopped living sphagnum moss, charcoal & sand. *Position*, well drained pots, hanging baskets, or on blocks of wood. *Repot or block*, Feb. or Mar.; pots must be well drained. *Water* three times weekly Mar. to Aug.; once a week Aug. to Nov. & Feb. to Mar.; once a month Nov. to Feb. *Temp.* for stove species, 65° to 85° Mar. to Sept., 60° to 65° Sept. to Mar.; for greenhouse species, 45° to 55° Nov. to Ap., 55° to 65° Ap. to Nov. *Resting period*, Mar. to Nov. *Growing period*, Nov. to Mar. *Propagate* by division of plants, or by offsets when new growth begins.

Epigæa (American Ground Laurel, New England May-flower, Trailing Arbutus).—*Ord.* Ericaceæ. Hardy evergreen creeping shrub. *Nat.* N. States of America. *Int.* 1736. *Species* cultivated, 1. *Flowers*, white, red, fragrant; May. *Soil*, sandy peat. *Position*, shady borders or rockeries. *Plant*, Sept., Oct. or Ap. *Propagate* by division of plant in Oct. or Ap.

Epilobium (Blooming Sally, Bay Willow, Blood Vine, Rose Bay, Rose Elder, Codlins & Cream, Apple-pie, Cherry-pie, Custard Cups, Fiddle Grass).—*Ord.* Onagraceæ. Hardy perennial herbs. *Nat.* Britain, California, Europe, Peru, Sierra Nevada. *Int.* (foreign species) 1775. *Ht.* 6 in. to 6 ft. *Species* cultivated, 6; varieties, several. *Flowers*, rose, pink, crimson; May to Aug. *Soil*, ordinary. *Position*, shady or sunny borders, or side of water-courses. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in shady position outdoors in Mar., Ap. or Aug.; division of roots in Oct. or Mar.

Epimedium (Barren-wort, Bishop's hat).—*Ord.* Berberidaceæ. Hardy herbaceous perennials. *Nat.* Europe, Japan, Persia. *Int.* 1830. *Ht.* 6 in. to 2 ft. *Species* cultivated, 5. *Flowers*, grey, crimson, yellow, violet, white; Ap., May. *Leaves*, green, margined with coppery bronze. *Soil*, sandy loam & peat. *Position*, cool shady border or rockery. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots in July or Aug.

Epipactus (Helleborine).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* Britain. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, purple, white, crimson; July to Sept. *Soil*, peat & chalk. *Position*, moist shady borders or near ponds or rivulets. *Plant*, Mar. or Ap. *Propagate* by division of plant in Mar. or Ap.

Epiphyllum (Leaf-flowering Cactus, Winter Cactus).—*Ord.* Cactaceæ. Succulent greenhouse trailing plants. *Nat.* Brazil, S. America. *Int.*, about 1800. *Species* cultivated, 2; varieties several. *Flowers*, white, purple, rose, crimson, scarlet; Nov. to May. *Compost*, equal parts turfy loam, peat & leaf-mould, one-fourth silver sand. *Position*, light warm greenhouse Sept. to June, sunny place outdoors or cold frame June to Sept. *Water* moderately Sept. to Ap., little more freely other times. *Temp.*, Nov. to Mar. 50° to 60°; Mar. to June, 55° to 65°; Sept. to Nov. 40° to 45°. *Propagate* by cuttings inserted singly in 2-in. pots filled with sandy soil & brick dust in Mar. or Ap.; grafting on *Pereskia aculeata* or *P. Bleo* in temp. 65° to 75° in Feb., Mar. or Ap.

Epipremnum (Tonga-plant).—*Ord.* Aradaceæ. Stove climbing plant. Orn. foliage. *Nat.* Malay Archipelago. *Int.*, date unknown. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Leaves*, dark green, pinnatifid. *Compost*, equal parts loam & peat, with little sand. *Position*, pots or beds; stems clinging to walls, pillars, or trunks of tree ferns. *Pot or plant*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 85°. *Propagate* by seeds sown in sandy peat in temp. 85° in Mar.; division of roots in Feb.

Epistephium.—*Ord.* Orchidaceæ. Stove terrestrial orchid. *Nat.* Bahia. *Int.* 1864. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, reddish purple; sum. *Compost*, two parts fibrous loam, one part sand. *Pot*, Feb.; good drainage essential; keep soil below rim of pot. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. *Syringe* freely in sum. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Equal-leaved Bell-flower (*Campanula isophylla*)—see Campanula.

Equisetum (Horsetail, Fox-tailed Asparagus).—*Ord.* Equisetaceæ. Hardy deciduous herbaceous perennials. Orn. foliage. *Nat.* Britain. *Ht.* 1 to 6 ft. *Species* cultivated, 2. *Leaves*, green, narrow, rush-like, elegant. *Soil*, ordinary. *Position*, bogs, margins of ponds, moist shady corners, or in pots in a cool shady greenhouse. *Plant or pot*, Ap. *Water* plants in pots freely whilst growing, moderately at other times. *Propagate* by division of rootstocks in Mar. or Ap.

Eragrostis (Feather Grass, Love Grass).—*Ord.* Graminaceæ. Hardy annual flowering grasses. *Nat.* Temperate Regions of the World. *Ht.* 12 to 18 in. *Species* cultivated, several. *Inflorescence*, light, feathery & graceful. *Soil*, ordinary. *Position*, open sunny beds or borders. *Propagate* by seeds sown ⅛ in. deep where plants are to grow in Ap. *Gather* inflorescence in July & dry for winter use.

Eranthemum.—*Ord.* Acanthaceæ. Stove flowering plants. *Nat.* India, E. Indies, Polynesia, New Caledonia, Moulmein. *Int.* 1796. *Ht.* 1 to 4 ft. *Species* cultivated, 15. *Flowers*, blue, white, pink, purple; Nov. to Mar. *Compost*, equal parts peat, leaf-mould, loam & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. *Temp.*, Sept to Mar. 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to within one inch of base after flowering. *Apply* liquid or artificial manure occasionally to plants in flower. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 75° Mar. to July.

Eranthis (Winter Aconite, Winter Hellebore, Winter Wolf's-bane).—*Ord.* Ranunculaceæ. Hardy tuberous-rooted perennial. *Nat.* W. Europe. *Int.* 1596. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, yellow; Dec. to Mar. *Soil*, ordinary. *Position*, shady borders, beds, lawns, under trees or on rockeries. *Plant* 2 in. deep & 2 in. apart in Oct., Nov. or Dec. *Tubers* should not be lifted, but left permanently in the soil. *Pot culture: Compost*, equal parts leaf-mould, loam & sand. *Position*, 3-in. pots or large pans in cool greenhouse or window. *Plant* tubers ½ in. deep & close together in pots or pans in Oct. or Nov. *Water* moderately. *After flowering*, plant tubers out in borders. *Propagate* by division of tubers in Oct. or Nov.

Erect Bugle (*Ajuga genevensis*)—see Ajuga.

Erect Cactus (*Mamillaria erectus*)—see Mamillaria.

Erect Clematis (*Clematis erecta*)—see Clematis.

Eremostachys (Desert Rod).—*Ord.* Labiatæ. Hardy perennial. *Nat.* Levant. *Int.* 1731. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; July. *Soil*, light rich. *Position*, sunny well drained borders. *Plant*, Oct. or Ap. *Cut* off spikes after flowering. *Propagate* by seeds sown 1/16 in. deep in light soil in sunny position outdoors in Ap.; division of roots in Oct. or Ap.

Eremurus.—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* Asia, Turkestan, Siberia, India. *Int.* 1800. *Ht.* 1 to 5 ft. *Species* cultivated, 6. *Flowers*, white, pink, yellow, brown; June to Sept. *Soil*, light deep rich loam. *Position*, sunny well drained beds or borders. *Plant*, Oct. or Mar. *Transplanting* must not be done oftener than is really necessary. *Propagate* by division of roots in Oct. or Mar.

Erianthus (Woolly Beard Grass, Ravenna Grass).—*Ord.* Graminaceæ. Hardy orn. foliage perennial grass. *Nat.* S. Europe. *Int.*, date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Inflorescence* similar to pampas plumes. *Leaves*, narrow, green. *Soil*, deep loam. *Position*, sunny well drained lawns or borders. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap

Erica (Bell Heather, Cape Heath, Spring Heath, Winter Heath, Black Heath, Mediterranean Heath).—*Ord.* Ericaceæ. Hardy & greenhouse evergreen flowering shrubs. *Nat.* Cape of Good Hope, S. Europe, Britain. *Int.* (foreign species) 1658. *Ht.* 1 to 10 ft. *Species* cultivated, 90 greenhouse, 10 hardy; hybrids & varieties many. *Flowers*, red, white, yellow, scarlet, purple, lilac, pink; Jan. to Dec. *Culture of Hardy species: Soil*, sandy peat. *Position*, sunny rockeries, or margins of borders. *Plant*, Oct. or Mar. *Prune* straggly shoots in Ap. *Culture of Greenhouse species: Compost*, two-thirds fibrous peat, one-third silver sand. *Position*, well drained pots in light airy greenhouse Oct. to July, sunny place outdoors July to Oct. *Repot* autn. & winter-flowering kinds in Mar., sum.-flowering sorts in Sept. *Press* the compost firmly in pots. *Water* carefully always, giving sufficient to keep soil uniformly moist; rain, not spring water, essential. *Prune* shoots to within 1 or 2 in. of base immediately after flowering. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to July, 45° to 55°. *Soot-water* best stimulant. *Propagate* greenhouse species by cuttings of shoots 1 in. long inserted in well drained pot of sandy peat under bell-glass in temp. 60° to 70° in spring; hardy species by cuttings inserted in sandy peat under bell-glass or hand-light outdoors in Sept. or Oct.; division of plants in Oct.; layering shoots in Sept., Oct. or Nov.

Erigeron (Flea-bane).—*Ord.* Compositæ. Hardy herbaceous deciduous perennials. *Nat.* Britain, Turkestan, Himalayas, N. America, Rocky Mountains. *Int.* (foreign species) 1633. *Ht.* 4 to 24 in. *Species* cultivated, 8. *Flowers*, purple, violet, yellow, orange; May to Sept. *Soil*, ordinary. *Position*, sunny moist rockeries or borders. *Plant*, Oct. or Mar. *Cut* down stems after flowering. *Propagate* by seeds sown ⅛ in. deep in light soil in shady position outdoors in Ap., May or June; division of roots in Oct. or Mar.

Erinus.—*Ord.* Scrophularinaceæ. Hardy deciduous herbaceous perennial. *Nat.* Pyrenees. *Int.* 1739. *Ht.* 3 in. *Species* cultivated, 1; variety, 1. *Flowers*, purple, white; Mar. to May. *Soil*, decayed vegetable mould & old mortar. *Position*, crevices of old sunny walls or dryish rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown where plants are to grow in Ap.; division of plants in Ap.

Eriogonum.—*Ord.* Polygonaceæ. Hardy herbaceous perennials *Nat.* N.W. America. *Int.*, date unknown. *Ht.* 3 to 10 in. *Species* cultivated, 5. *Flowers*, white, yellow, rose; sum. *Soil*, ordinary. *Position*, open borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown ⅛ in. deep in light soil outdoors in Ap.; division of roots in Mar.

Eriophorum (Cotton Grass, Hare's-tail Rush).—*Ord.* Cyperaceæ. Hardy aquatic perennials. *Nat.* Northern Hemisphere. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Inflorescence* borne in spikelets, with cottony tufts on their extremities. *Soil*, ordinary. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by seeds sown where plants are to grow; division of plants in Mar.

Eriopsis.—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchid. *Nat.* S. America. *Int.* 1845. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, yellow, brown; winter. *Compost*, fibrous peat, little sphagnum moss. *Repot*, Mar. or Ap. *Position*, light sunny part of stove. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. *Syringe* freely in sum. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Eriospermum. — *Ord.* Liliaceæ. Greenhouse deciduous bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1820. *Ht.* 9 to 12 in. *Flowers*, blue, yellow, white; July. *Species* cultivated, 4. *Compost*, two parts peat, one part river sand. *Position*, light airy greenhouse Oct. to May, sunny frame outdoors May to Oct. *Pot*, Aug., placing one bulb in a 5-in. pot. *Water* moderately Aug. to Ap., afterwards keep nearly dry. *Temp.*, Oct. to May 50° to 55°. *Propagate* by offsets placed in small pots in Aug. or Sept.

Eriostemon.—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* Australia, New Caledonia. *Int.* 1822. *Ht.* 1 to 3 ft. *Species* cultivated, 6. *Flowers*, pink, white, rose; Mar. to June. *Compost*, equal parts sandy loam & peat. *Position*, well drained pots in light airy greenhouse. *Repot*, Mar., pressing soil down firmly. *Water* moderately Sept. to Ap., freely afterwards. *Prune* straggly growths in Feb. *Temp.*, Sept. to Ap. 45° to 50°; Ap. to Sept. 50 to 60°. *Ventilate* greenhouse freely in sum. *Propagate* by cuttings 2 in. long inserted in sandy peat under bell-glass in temp. 60° in Mar.; grafting on *Correa alba* in Mar.

Eritrichium (Fairy Borage, Fairy Forget-me-not).—*Ord.* Boraginaceæ. Hardy perennial alpine plant. *Nat.* Alps. *Int.* 1869. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, sky-blue, yellow eye; May to Aug. *Compost*, equal parts broken limestone, sandstone, fibry loam, peat & sand. *Position*, sheltered crannies of exposed rockeries, where foliage can be protected from excessive moisture in winter. *Plant*, Ap. *Protect* by panes of glass in rainy weather. *Propagate* by division of plants in Ap.

Ermine-chop (*Mesembryanthemum ermininum*)— see Mesembryanthemum.

Erodium (Heron's-bill).—*Ord.* Geraniaceæ. Hardy perennial herbs. *Nat.* Asia, Africa, Europe. *Int.* 1640. *Ht.* 3 to 12 in. *Species* cultivated, 6. *Flowers*, purple, violet, white, red; Ap. to Sept. *Soil*, sandy. *Position*, dry sunny borders or rockeries. *Plant*, Mar. or Ap. *Transplant* very seldom. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pots of sandy soil in temp. 55° in Mar. or Ap., transplanting seedlings outdoors in June or July; division of roots in Ap.

Eryngium (Sea Holly).—*Ord.* Umbelliferæ. Hardy perennial herbs. Orn. foliage. *Nat.* Britain, Europe, Caucasus, Brazil, Mexico. *Int.* (foreign species) 1597. *Ht.* 1 to 6 ft. *Species* cultivated, 14. *Flowers*, blue, white; June to Sept. *Soil*, light sandy. *Position*, dryish sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in boxes of sandy soil in cold frame in Ap. or May; division of plants in Oct. or Ap.

Eryngo (*Eryngium amethystinum*)—see Eryngium.

Erysimum (Alpine Wallflower, Fairy Wallflower, Rock Wallflower, Rhœtian Wallflower).—*Ord.* Cruciferæ. Hardy annuals, biennials & perennials. *Nat.* N. America, Alps of Jura, Norway. *Int.* 1823. *Ht.* 1 to 12 in. *Species* cultivated, 4 perennials, 2 biennials, 1 annual. *Flowers*, yellow, orange, fragrant; May to Aug. *Soil*, ordinary. *Position*, dryish sunny beds or rockeries. *Plant*, Mar. or Ap. *Propagate* annual species by seeds sown where plants are required to grow in Ap.; biennials, by seeds sown in sunny place outdoors in June, transplanting seedlings to flowering positions in Aug.; perennials, by seeds sown as advised for biennials, also by cuttings inserted in sandy soil under hand-light or cold frame in Aug., division of plants in Mar. or Ap.

Erythræa (Blush-wort, Centaury).—*Ord.* Gentianaceæ. Hardy perennial alpine plants. *Nat.* California, W. Europe. *Int.*, date unknown. *Ht.* 2 to 6 in. *Species* cultivated, 2. *Flowers*, rose, pink; Ap. to June. *Soil*, sandy loam. *Position*, sunny rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in cold frame in Ap.; division of plants in Mar. or Ap.

Epiphytal Rhododendron (*Rhododendron Dalhousiæ*)—see Rhododendron.

Erythrina (Coral-tree).—*Ord.* Leguminosæ. Half-hardy herbaceous perennials & greenhouse deciduous shrubs. Flowering & orn. foliage. *Nat.* Brazil, E. Indies. *Int.* 1690. *Ht.* 6 to 20 ft. *Species* cultivated, 2; varieties several. *Flowers*, rich scarlet; May to Sept. *Culture of E. crista-galli*: *Compost*, equal parts loam, peat, well decayed manure & sand. *Position*, pots in warm greenhouse, or at base of south wall S. of England. *Pot or plant*, Mar. *Prune* shoots away close to old wood in Oct. *Water* freely Ap. to Sept.; keep almost dry remainder of time. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Store* plants in pots on their sides in greenhouse during winter. *Place* in light part of structure Mar. to June, then stand in sunny position outdoors. *Protect* outdoor plants with covering of ashes. *Culture of shrubby species*: *Compost*, same as above. *Position*, pots in warm sunny greenhouse. *Pot*, Mar. *Prune* moderately after flowering. *Water* freely Ap. to Sept.; keep nearly dry afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to Sept. 60° to 70°. *Propagate* by cuttings of young shoots removed in spring with portion of old wood attached & inserted singly in well drained pots of sandy peat in temp. 75°.

Erythronium (Dog's-tooth Violet, Yellow Serpent, Serpent's-tongue, Yellow Adder's-tongue).—*Ord.* Liliaceæ. Hardy bulbous perennials. *Nat.* Europe, N. America. *Int.* 1596. *Ht.* 3 to 6 in. *Species* cultivated, 3. *Flowers*, yellow, rose, purple, cream; Mar. to May. *Compost*, equal parts loam, peat & leaf-mould. *Position*, sheltered rockeries, beds, borders, or under shade of trees. *Plant* bulbs 3 in. deep & 2 in. apart in Aug. *Transplant* very seldom. *Topdress* annually with decayed manure. *Propagate* by offsets in Aug. *Pot culture*: *Compost*, same as above. *Plant* bulbs 1 in. deep & $\frac{1}{2}$ in. apart in well drained pots in Aug. *Store* pots in cold frame during winter. *Water* very little until Feb., then give a moderate supply. *Place* plants in greenhouse or window to flower in Mar.

Escallonia (Chilian Gum Box).—*Ord.* Saxifragaceæ. Half-hardy evergreen shrubs. *Nat.* Chili, New Grenada, Patagonia, Valdivia, Organ Mountains, Chiloe. *Int.* 1827. *Ht.* 2 to 10 ft. *Species* cultivated, 5. *Flowers*, white, crimson, rose, red; June, July. *Soil*, ordinary rich, well drained. *Position*, against south walls in Midlands & in open garden S. of England, may also be planted against back walls of cold greenhouses. *Plant*, Oct., Nov., Mar. or Ap. *Prune* straggly shoots only in Ap. *Propagate* by cuttings of half-ripened shoots inserted in sandy soil under bell-glass Aug. or Sept.; layering shoots in Oct.; suckers removed & replanted in Ap.

Eschscholtzia (Californian Poppy).—*Ord.* Papaveraceæ. Hardy annual flowering plants. *Nat.* California. *Int.* 1790. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties several. *Flowers*, orange, orange-crimson, yellow, rose; June to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in Aug. or Ap. where plants are to flower. *Thin* seedlings out to 2 in. apart when 1 in. high.

Esparto Grass (*Stipa tenacissima*)—see Stipa.

Eucalyptus (Australian Gum, Blue Gum, Tasmanian Cider-tree).—*Ord.* Myrtaceæ. Greenhouse & half-hardy evergreen trees. Orn. foliage. *Nat.* Australia. *Int.* 1810. *Ht.* in Europe, 5 to 30 ft. *Species* worth cultivating, 4. *Flowers*, purple or white; autn. or winter. *Leaves* mostly ovate-lanceolate, fragrant. *Compost*, two parts fibry loam, one part leaf-mould, charcoal & sand. *Position*, pots in greenhouse heated to temp. 45° to 50° in winter, 55° to 60° other times; dwelling rooms, sunny beds outdoors in sum.; sheltered places outdoors all the year S. of England. *Pot*, Mar. or Ap. *Plant* outdoors June; lift, Oct. *Water* plants in pots moderately Oct. to Ap., freely afterwards. *Pruning* not required. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pots of sandy soil in temp. 65° in Feb., Mar. or Ap.; young plants should be raised annually for pot culture. *E. globulus* and *Gunni* best species for outdoor culture; *citriodora* for pot culture.

Eucharidium.—*Ord.* Onagraraceæ. Hardy annual flowering plants. *Nat.* California. *Int.* 1787. *Ht.* 9 to 12 in. *Species* cultivated, 3; varieties several. *Flowers,* white, rose, red, lilac, purple; June to Oct. *Soil,* ordinary rich. *Position,* sunny well drained beds or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep where plants are to grow in Aug. or Sept. for early-sum. flowering, in Mar. or Ap. for mid-sum. flowering, & June for autn. flowering. *Thin* seedlings to 2 in. apart when 1 in. high.

Eucharis (Amazon Lily, Sander's Lily).—*Ord.* Amaryllidaceæ. Stove bulbous flowering plants. Evergreen. *Nat.* New Grenada. *Int.* 1851. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers,* white; all seasons. *Compost,* two parts fibrous loam, one part peat, decomposed sheep manure & sand. *Position,* well drained pots on a bed or stage heated beneath to temp. 85° in plant stove. *Pot* in June or July, placing six bulbs in a 10-in. pot. *Press* compost down firmly. *Repotting* not needful oftener than once every three or four years. *Water* moderately Oct. to Ap., freely afterwards. *Syringe* freely in sum. *Liquid manure* apply twice a week after flower stems appear. *Topdress* established plants annually in Mar. with rich compost. *Temp.,* Mar. to Sept. 70° to 80°; Sept. to Dec. 55° to 65°; Dec. to Mar. 65° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in temp. 85° in Feb. or Mar.; offsets removed from old bulbs & placed singly in 3-in. pots in June or July.

Eucomis (Pine-apple Flower, King's Flower).—*Ord.* Liliaceæ. Half-hardy bulbous flowering plants. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1760. *Ht.* 1 to 2 ft. *Species* cultivated, 4; variety, 1. *Flowers,* purple, green, brown; Mar. to Dec. *Pot culture: Compost,* two parts sandy loam, one part well decayed manure & sand. *Position,* well drained pots in light warm greenhouse. *Pot,* Oct. or Mar., placing one bulb in a 5-in. pot. *Water* very little Sept. to Mar., moderately Mar. to May, freely afterwards. *Temp.,* Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Apply* liquid manure occasionally when flower spike shows. *Outdoor culture: Soil,* ordinary light rich. *Position,* sunny well drained border. *Plant,* Sept., Oct. or Mar., placing bulbs 3 in. below surface & 6 in. apart. *Protect* in winter by covering of ashes, cocoanut-fibre refuse or manure. *Propagate* by offsets removed & transplanted in Sept. or Oct.

Eugenia (Rose Apple, Fruiting Myrtle).—*Ord.* Myrtaceæ. Stove & greenhouse flowering shrubs. Evergreen. *Nat.* Chili, W. Indies, Valdivia. *Int.* 1768. *Ht.* 4 to 20 ft. *Species* cultivated, 1 stove, 2 greenhouse, 1 variegated variety. *Flowers,* white; Feb. to June. *Fruit,* black, rose; globular, fragrant, edible; autn. *Compost,* two parts sandy loam, one leaf mould or sand. *Pot,* Feb. or Mar. *Position,* pots in stove or greenhouse. *Water* moderately Oct. to Ap. freely afterwards. *Syringe* Ap. to Aug. *Prune* straggly shoots in Mar. *Temp.* for stove species, 55° to 65° Sept. to Mar.; 65° to 75° Mar. to Sept.; for greenhouse species, 40° to 50° Oct. to Mar., 55° to 65° Mar. to Oct. *E. Ugni* may be grown against south wall outdoors S. of England. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 55° to 75° in sum.

Eulalia (Zebra-striped Rush).—*Ord.* Graminaceæ. Hardy orn. foliaged grass. *Nat.* Japan. *Int.,* date unknown. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 2. *Flowers,* purple; sum. *Leaves,* narrow, deep green, creamy, yellow. *Soil,* ordinary. *Position,* pots in cold greenhouse, on lawns, in borders. *Pot or plant,* Mar. or Ap. *Water* plants in pots moderately in winter, freely in sum. *Variegated* kinds best adapted for pot culture. *Propagate* by division of plants in Mar. or Ap.

Euonymus (Spindle-tree, Japanese Spindle-tree).—*Ord.* Celastraceæ. Hardy & half-hardy deciduous & evergreen shrubs. Orn. foliage. *Nat.* Europe, Britain, India, Japan, N. America. *Int.* (foreign species) 1686. *Ht.* 2 to 20 ft. *Species* cultivated, 5 deciduous, 4 evergreen; varieties several. *Leaves* mostly oval-shaped, green, or variegated with white & yellow. *Soil,* ordinary. *Position,* deciduous species in shrubberies; evergreen species against south or west walls, edgings to beds, window boxes, hedges & front of shrubberies. *Plant* deciduous species in Sept., Oct. or Nov.; evergreen in

Sept., Oct., Mar. or Ap. *Prune*, Oct. or Ap. *Good* seaside shrubs. *Pot culture of evergreen species: Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in cool greenhouse, corridors, balconies, windows. *Pot*, Sept., Oct. or Mar. *Water* moderately in winter, freely other times. *Syringe* foliage frequently in sum. *Propagate* by cuttings of shoots of previous year's growth, 3 in. long, inserted in sandy soil in cool greenhouse, window, or frame, in Sept. or Oct.

Eupatorium (Hemp Agrimony, Thoroughwort).—*Ord.* Compositæ. Hardy herbaceous and greenhouse shrubby plants. *Nat.* Britain, Europe, Asia, N. & S. America, Mexico. *Int.* (foreign species) 1640. *Ht.* 1 to 9 ft. *Species* cultivated, 4 hardy, 2 greenhouse. *Flowers*, white, red, lilac, purple, fragrant; sum. & winter. *Culture of hardy species: Soil*, ordinary. *Position*, open borders, shrubberies. *Plant*, Oct., Nov., Mar. or Ap. *Culture of shrubby greenhouse species: Compost*, equal parts loam & dried cow manure with a little sand. *Position*, pots in light greenhouse Sept. to June; cold frame June to Sept. *Pot*, Mar. or Ap. *Prune* immediately after flowering. Water moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to June 55° to 60°. *Apply* liquid manure frequently to plants in flower. Both species may be planted out in the open garden in June, have their shoots frequently pinched, & then be lifted & placed in pots for flowering in greenhouse. *Propagate* hardy species by division in Oct. or Mar.; greenhouse species by cuttings of young shoots inserted in sandy soil in temp. 55° to 65° in Mar. or Ap. For culture of *E. atrorubens* & *ianthinum* see *Hebeclinium*.

Euphorbia (Gum Thistle Spurge, Devil's Milk, Caper Spurge).—*Ord.* Euphorbiaceæ. Stove and hardy flowering shrubs or herbs. *Nat.*, Britain, Europe, Mexico, Cape of Good Hope, Bahia, Bourbon. *Int.* (foreign species) 1570. *Ht.* 6 in. to 5 ft. *Species* cultivated, 2 stove, 8 hardy. *Flowers* (bracts), red, scarlet, green, yellow; sum. & winter. *Culture of stove species: Compost*, equal parts fibrous loam & peat with liberal amount of sand. *Position*, sunny dry part of stove, with shoots trained up roof, wall, or on trellis. *Pot*, Mar. or June. *Water* moderately Sept. to Jan.; keep almost dry Jan. to May; freely afterwards. *Temp.*, Jan. to May 50° to 55°; May to Sept. 65° to 75°; Sept. to Jan. 55° to 65°. *Prune E. fulgens* in June, cutting shoots back to within 1 in. of base. *Culture of Hardy species: Soil*, ordinary. *Position*, dry borders, banks, sunny rockeries. *Plant*, Mar. or Ap. *Propagate* stove species by cuttings of young shoots 3 in. long inserted in well drained pots of sandy compost in temp. 70° in May, June or July; hardy species by cuttings inserted in sandy soil in cold frame in sum., seeds sown in dryish positions outdoors in Ap., division of plants in Oct. or Ap.

Euphorbia Oil-plant (*Euphorbia lathyris*)—see Euphorbia.

European Box Thorn (*Lycium europœum*)—see Lycium.

European Cyclamen (*Cyclamen europœum*)—see Cyclamen.

European Palm (*Chamærops humilis*)—see Chamærops.

European Thistle (*Viscum album* & *Loranthus europœus*) — see Viscum & Loranthus.

Eurya.—*Ord.* Ternströmiaceæ. Half-hardy evergreen shrub. Orn. foliage. *Nat.* Japan. *Int.* (variegated variety) 1871. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Leaves*, ovate, green & yellow. *Compost*, two parts loam, one part peat & sand. *Position*, pots in cool greenhouses, dwelling rooms or windows. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. May be grown against south wall outdoors in S. of England & Ireland. *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 60° to 65° in spring.

Eurybia—see Olearia.

Eurycles (Amboyna Lily, Brisbane Lily, Moreton Bay Lily).—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous flowering plants. *Nat.* Amboyna, Queensland. *Int.* 1759. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, white; Mar. *Compost*, three parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in light part of stove & greenhouse. *Pot*, Feb. *Water* freely Mar. to Sept., keep nearly dry remainder of time. *Temp.* for stove species, Sept. to Mar. 50° to 55°, Mar. to Sept. 65° to 75°; for greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by offsets removed & placed singly in small pots in Feb.

Eutoca—see Phacelia.

Evening Flower (*Hesperanthia radiata*)—see Hesperanthia.

Evening Primrose (*Œnothera biennis*)—see Œnothera.

Evening Scented Rocket (*Hesperis fragrans*)—see Hesperis.

Ever-blooming Begonia (*Begonia semperflorens*)—see Begonia.

Ever-blooming Iris (*Iris ruthenica*)—see Iris.

Ever Fern (*Polypodium vulgare*)—see Polypodium.

Ever-flowering Cherry (*Cerasus semperflorens*)—see Cerasus.

Evergreen Alkanet (*Anchusa sempervirens*)—see Anchusa.

Evergreen Beech (*Fagus betuloides*)—see Fagus.

Evergreen Candytuft (*Iberis sempervirens*)—see Iberis.

Evergreen Cherry (*Cerasus Carolineana*)—see Cerasus.

Evergreen Clematis (*Clematis calycina* & *C. cirrhosa*)—see Clematis.

Evergreen Cypress (*Cupressus sempervirens*)—see Cupressus.

Evergreen Flax (*Linum arboreum*)—see Linum.

Evergreen Honeysuckle (*Lonicera grata*)—see Lonicera.

Evergreen Laburnum-tree (*Cytisus racemosus*)—see Cytisus.

Evergreen Maple (*Acer heterophyllum*)—see Acer.

Evergreen Oak (*Quercus Ilex*)—see Quercus.

Evergreen Privet (*Ligustrum vulgare semperflorens*)—see Ligustrum.

Evergreen Rose (*Rosa sempervirens*)—see Rosa.

Evergreen Thorn (*Cratægus pyracantha*)—see Cratægus.

Evergreen Trumpet-flower (*Bignonia sempervirens*)—see Bignonia.

Evergreen Virginian Creeper (*Ampelopsis sempervirens*)—see Ampelopsis.

Everlasting Flowers—see Acroclinium, Helichrysum, Rhodanthe & Xeranthemum.

Everlasting Pea (*Lathyrus latifolius*)—see Lathyrus.

Eve's-cushion (*Saxifraga hypnoides*)—see Saxifraga.

Eve Daisy (*Potentilla tormentilla*)—see Potentilla.

Ewer's Stonecrop (*Sedum Ewersi*)—see Sedum.

Exacum.—*Ord.* Gentianaceæ. Stove annual flowering plants. *Nat.* Ceylon. *Int.* 1848. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, violet, purple; Sept. to Dec. *Compost*, equal parts peat, loam & sand. *Position*, pots in light part of plant stove. *Water* freely. *Temp.*, 65° to 75°. *Propagate* by seeds sown on surface of fine compost in temp. 75° to 80° in Ap., transplanting seedlings when large enough to handle into small pots & thence into a larger size later on.

Exeter Elm (*Ulmus montana var. fastigiata*)—see Ulmus.

Exeter Oak (*Quercus cerris var. Lucombeana*)—see Quercus.

Exochorda (Pearl Bush).—*Ord.* Rosaceæ. Hardy deciduous shrub. *Nat.* China. *Ht.* 6 ft. *Int.*, date unknown. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, shrubberies. *Plant*, Oct. to Feb. *Prune* after flowering. *Propagate* by seeds sown in sandy soil in cold frame in spring or autn., cuttings of young shoots inserted in sandy soil under bell glass in sum.; grafting on portions of its own roots in temp. 60° in spring.

Faba (Garden or Broad Bean).—*Ord.* Leguminosæ. Hardy annual edible-seeded vegetable. *Nat.* country not known; probably Egypt. *Int.*, date unknown, probably by the Romans. *Ht.* 2 to 3 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; June & July. *Soil*, deep strong loam, well manured. *Position*, open, sunny. *Sow* seeds of broad beans 3 in. deep & 4 in. apart in drills 3 ft. asunder; dwarf beans 2½ in. deep & 3 in. apart in drills 18 in. asunder. *Time to sow*, second week in Oct., Nov., Dec., Jan., Feb., Mar., Ap., May, June, July. *Earth-up* stems when plants are 6 in. high. *Pinch* off tops of plants when pods are formed. *Steep* seeds in soft water for 12 hours before sowing. *Seeds* retain full vegetative powers for two years. *Lime*, old mortar & wood ashes good for beans on old garden soils. *Apply* liquid manure when pods are formed.

Fabiana (False Heath).—*Ord.* Solanaceæ. Hardy flowering shrub. Evergreen. *Nat.* Chili. *Int.* 1838. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, against south or west walls; cool greenhouses N. of England. *Plant*, Oct. or Ap. *Water* plants in pots moderately in winter, freely in sum. *Repot*, Mar. or Ap. *Propagate* by cuttings of firm young shoots inserted in sandy soil under bell-glass in cold greenhouse, or in cold frame in Mar. or Ap.

Fae Berry (*Ribes grossularia*)—see Ribes.

Fagus (Beech).—*Ord.* Cupuliferæ. Hardy deciduous & evergreen orn. foliaged trees. *Nat.* Britain, Europe, Asia Minor, United States, Chili, Tierra del Fuego. *Int.* (foreign species) 1766. *Ht.* 50 to 100 ft. *Species* cultivated, 4 deciduous, 1 evergreen; varieties several. *Leaves*, oblong, light green, silver striped, golden striped, copper, purple. *Soil*, sandy loam. *Position*, open dryish shrubberies, lawns, copses. *Plant* deciduous species & varieties Oct. to Feb.; evergreen, Sept. or Ap. *Common* species (*F. sylvatica*) good hedge shrub. *Plant* 9 in. apart & keep sides closely trimmed. *Propagate* by seeds sown ¾ in. deep in rows 15 in. apart in Mar. or Ap. transplanting seedlings when two years old; variegated kinds by grafting in Mar. on common species.

Fair-haired Hyacinth (*Muscari comosum*)—see Muscari.

Fair Maids of February (*Galanthus nivalis*)—see Galanthus.

Fair Maids of France (*Ranunculus aconitifolius, Saxifraga granulata, Achillea ptarmica*)—see Ranunculus, Saxifraga, Achillea.

Fair Maids of Kent (*Ranunculus aconitifolius*)—see Ranunculus.

Fairy Fingers (*Digitalis purpurea*)—see Digitalis.

Fairy Heron's-bill (*Erodium Reichardi*)—see Erodium.

Fairy Primrose (*Primula minima*)—see Primula.

Fairy Wallflower (*Erysimum pumilum*)—see Erysimum.

False Cherry (*Cerasus pseudo-cerasus*)—see Cerasus.

False Daisy (*Bellium bellioides*)—see Bellium.

False Ebony-tree (*Cytisus laburnum*)—see Cytisus.

False Goat's-beard (*Astilbe japonica*)—see Astilbe.

False Grape (*Ampelopsis quinquefolia*)—see Ampelopsis.

False Honeysuckle (*Azalea pontica*)—see Azalea.

False Jalap-plant (*Mirabilis jalapa*)—see Mirabilis.

False Varnish-tree (*Ailanthus glandulosa*)—see Ailanthus.

False Winter-green (*Pyrola rotundifolia*)—see Pyrola.

Fancy Pansy (*Viola tricolor*)—see Viola.

Fatsia (Japanese Aralia, Rice Paper-plant).—*Ord.* Araliaceæ. Half-hardy orn. foliaged shrubs. *Nat.* Japan, Formosa. *Int.*, date unknown. *Ht.* 3 to 8 ft. *Species* cultivated, 2; varieties, 2. *Leaves*, digitate, deep shining green, variegated with white & yellow. *Compost*, two parts sandy loam, one part leaf-mould, decayed manure & sand. *Position*, well drained pots in cool or warm greenhouse, dwelling-room, or sheltered beds or borders outdoors in sum. *Pot*, Feb., Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Ap. 40° to 50°; Ap. to Sept. 55° to 65°. *Propagate* by cuttings of roots inserted in light soil in temp. 80° in Mar. or Ap.: variegated kinds by grafting on common species in temp. 75° in Mar. or Ap.

Feather-few (*Pyrethrum parthenium*)—see Pyrethrum.

Feather-foil (*Hottonia palustris*)—see Hottonia.

Feather Grass (*Stipa pennata* & *Eragrostis elegans*)—see Stipa & Eragrostis.

Feathered Columbine (*Thalictrum aquilegifolium*)—see Thalictrum

Feathered Elm (*Ulmus glabra*)—see Ulmus.

Feathered Pink (*Dianthus plumarius*)—see Dianthus.

Feathery Asparagus (*Asparagus plumosus*)—see Asparagus.

Feathery Grape-Hyacinth (*Muscari comosum monstruosum*)—see Muscari.

Fedia (Horn of Plenty).—*Ord.* Valerianaceæ. Hardy annual herb. *Nat.* S. Europe. *Int.* 1796. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, red; July. *Soil*, ordinary. *Position*, open beds or borders. *Propagate* by seeds sown in boxes or pots of light soil in temp. 55° in Mar., transplanting into borders in May, or outdoors where plants are to grow in Ap.

Feea—see Trichomanes.

Felicia.—*Ord.* Compositæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1759. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple, yellow; May. *Compost*, two parts peat, one sand. *Position*, well drained pots in cool greenhouse. *Pot*, Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to Oct. 50° to 60°. *Propagate* by seeds sown on surface of fine sandy peat in temp, 40° to 50° in Mar. or Ap.; cuttings of shoots inserted in pots of sandy soil under bell-glass in cool greenhouse, May to Aug.

Fellon Weed (*Senecio Jacobæa*)—see Senecio.

Felt-wort (*Verbascum Thapsus*)—see Verbascum.

Female Oak (*Quercus pedunculata*)—see Quercus.

Female Polypody (*Athyrium felix-fœmina*)—see Athyrium.

Fen-berry (*Vaccinium oxycoccus*)—see Vaccinium.

Fen Orchis (*Liparis Lœslii*)—see Liparis.

Fen Rue (*Thalictrum flavum*)—see Thalictrum.

Fennel (*Fœniculum vulgare*)—see Fœniculum.

Fennel Flower (*Nigella damascena*)—see Nigella.

Fennel-leaved Pæony (*Pæonia tenuifolia*)—see Pæonia.

Fennel Oil-plant (*Fœniculum dulce* & *F. vulgare*)—see Fœniculum.

Fennugreek (*Trigonella fœnum groseum*)—see Trigonella.

Fenzlia—see Gilia.

Ferdinandia—see Zaluzania.

Fern Bush (*Comptonia asplenifolia*)—see Comptonia.

Fern-leaved Beech (*Fagus sylvatica asplenifolia*)—see Fagus.

Fern-leaved Birch (*Betula populifolia laciniata*)—see Betula.

Fern-leaved Chestnut (*Castanea vesca asplenifolia*)—see Castanea.

Fern-leaved Heron's-bill (*Erodium trichomanefolium*)—see Erodium.

Fern-leaved Speedwell (*Veronica laciniata*)—see Veronica.

Fern-leaved Sumach (*Rhus glabra laciniata*)—see Rhus.

Fern-leaved Weeping Birch (*Betula populifolia pendula*)—see Betula.

Fern-like Cypress (*Retinospora filicoides*)—see Retinospora.

Fern Palm (*Cycas revoluta*)—see Cycas.

Ferraria (Black Iris, Tiger Iris).—*Ord.* Iridaceæ. Hardy & half hardy bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1755. *Ht.* 4 to 6 in. *Species* cultivated, 4 greenhouse, 1 hardy. *Flowers*, brown; Mar. to July. *Culture of greenhouse species: Compost*, two parts sandy loam, one peat. *Position*, cool greenhouse. *Pot*, Nov. *Place* bulbs with point just below surface & 1 to 2 in. apart. *Water* occasionally Nov. to Feb.; moderately Feb. to June; keep quite dry July to Nov. *Temp.*, Nov. to Feb. 40° to 45°; Feb. to June, 50° to 60°. *Culture of hardy species: Soil*, rich sandy. *Position*, sunny well drained border. *Plant* in Mar. or Ap. 2 to 3 in. deep. *Lift* bulbs in Nov. & store in cool, dry, frost-proof place until planting time, or protect in ground by covering of ashes, decayed leaves or manure in winter. *Propagate* by seeds sown ⅛ in. deep in well drained pots of sandy soil in temp. 50° to 60° in Mar. or Ap.; by offsets at potting or planting time.

Ferula (Giant Fennel).—*Ord.* Umbelliferæ. Hardy herbaceous plants. Orn. foliage. *Nat.* S. Europe, Asia Minor, Persia, Turkestan, N. Africa. *Int.* 1596. *Ht.* 3 to 12 ft. *Species* cultivated, 8. *Flowers*, yellow; May to July. *Foliage*, elegant, fern-like, deep green. *Soil*, ordinary. *Position*, open, margins of shrubberies, borders, ponds, isolated on lawns & summits of rockeries or banks. *Plant*, Nov. to Mar. *Propagate* by seeds sown in Sept., Oct. or Nov. in light soil outdoors, transplanting seedlings following sum.; division of roots in Oct. or Nov.

Fescue Grass (*Festuca ovina*)—see Festuca.

Festuca (Fescue Grass). — *Ord.* Graminaceæ. Hardy perennial grasses. Orn. foliage. *Nat.* Britain, Europe. *Int.* (foreign species), date unknown. *Ht.* 6 to 8 in. *Species* cultivated, 1; varieties, 2. *Leaves*, soft blue, green. *Outdoor culture: Soil*, ordinary. *Position*, edgings of flower beds or borders. *Plant*, Sept., Oct., Mar. or Ap. *Pot culture: Compost*, two parts good soil, one part leaf-mould & sand. *Position*, cold or warm greenhouses & windows. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. *Propagate* by seeds sown outdoors in Ap.; division of tufts at potting or planting time.

Feverfew (*Pyrethrum parthenium*)—see Pyrethrum.

Fever Gum-tree (*Eucalyptus globulus*)—see Eucalyptus.

Fever Tree (*Eucalyptus globulus*)—see Eucalyptus.

Fever Twig (*Celastrus scandens*)—see Celastrus.

Ficus (Fig-tree, Benjamin-tree, Creeping Fig, India Rubber-plant, Banyan-tree).—*Ord.* Urticaceæ. Stove, greenhouse & hardy deciduous & evergreen trees & shrubs. Orn. foliage & fruit-bearing. *Nat.* Australia, Asia, Mediterranean Region, India, S. Sea Islands, W. & E. Indies, N. S. Wales, Japan, China, Amboyna, Sierra Leone. *Int.*, Fig, 1548; India-rubber plant, 1815; Creeping Fig, 1721. *Ht.* 5 to 40 ft. *Species* cultivated, 12 stove, 10 greenhouse, 1 hardy. *Flowers* unisexual, borne inside the fruit. *Culture of orn. species: Compost*, three parts loam, one part peat & sand. *Position*, erect species (*F. elasticus*, etc.) in pots in stove, greenhouse or dwelling rooms; creeping species (*F. barbata*, *repens*, etc.) in beds with shoots clinging to walls, rockeries, etc. *Pot* or *plant*, Feb., Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* stove species daily Feb. to Aug. *Temp.* for stove species, 55° to 65° Oct. to Feb., 75° to 85° Feb. to Oct.; for greenhouse species, 50° to 55° Sept. to Mar., 60° to 70° Mar. to Sept. *Culture of India Rubber-plant in Rooms: Compost*, see above. *Position*, light, near windows, away from draughts. *Pot*, Mar. or Ap. *Water* once a week Nov. to Mar., twice & three times weekly other times. *Temp.*, Sept. to Ap. 40° to 50°; Ap. to Sept. 55° to 60°. *Sponge* leaves weekly. *Outdoor culture in sum.: Plunge* pots to rim in sunny beds middle of June. *Lift* & place in greenhouse again in Sept. *Water* freely daily. *Outdoor culture of Fig: Compost*, two parts fibry loam, one part brick rubbish & old mortar. *Position*, against south or south-west walls. *Plant*, Ap., in border 2 ft. deep & 3 ft. wide, enclosed with brick or concrete wall. *Mode of bearing:* entire length of previous year's shoots; only one crop borne outdoors in England. *Prune*, Ap. or July, simply removing deformed, dead, or very weak branches. *Pinch* point off vigorous young shoots in July. *Apply* liquid manure once, in Aug. to trees bearing heavily. *Figlets* size of filberts remove in Sept. or Oct. *Protect* branches in Dec. with straw or mats, removing both in Ap. *Culture of Fig Under Glass: Compost*, position, border, time of planting as above. *Branches* trained up roof or against wall. *Mode of bearing:* On shoots of previous year's growth for first crop; those of current year for second crop. *Prune & pinch* as above. *Disbud* young shoots when too many are forming. *Water & syringe* freely in sum. *Apply* liquid manure occasionally in sum. *Temp. for forcing:* Jan. 50° to 55°; Feb. 60° to 65°; Mar. to Aug. 70° to 85°; Aug. to Oct. 60° to 65°; Oct. to Jan. 40° to 50°. *Pot culture of Fig: Compost*, turfy loam, little bonemeal. *Position*, ordinary greenhouse, vinery or forcing house. *Pot*, Nov. to Ap. *Size of pots*, 10 or 12-in. *Water* freely when growing, very little when not. *Apply* liquid manure twice weekly to trees bearing fruit. *Syringe* daily when in growth. *Pinch* points off young shoots when latter are 9 in. long. *Protect* pots with covering of straw Nov. to Jan. & partially expose branches to the air. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 75° in Mar.; cuttings of shoots or stems inserted in sandy soil under bell-glass in temp. 65° to 75° in spring; layering shoots in Oct. or Nov.; suckers removed in autn.; grafting in spring.

Field Ash (*Pyrus aucuparia*)—see Pyrus.

Fig Marigold (*Mesembryanthemum crystallinum*)—see Mesembryanthemum.

Fig Tree (*Ficus carica*)—see Ficus.

Fig-wort (*Scrophularia nodosa*)—see Scrophularia.

Fijian Hare's-foot Fern (*Davallia fijiensis*)—see Davallia.

Fiji of Japan (*Wistaria sinensis*)—see Wistaria.

Filbert (*Corylus Avellana*)—see Corylus.

Filmy Fern—see Hymenophyllum, Todea, & Trichomanes.

Finger Fern (*Ceterach officinarum*)—see Ceterach.

Finger Flower (*Digitalis purpurea*)—see Digitalis.

Fir—see Abies, Picea, & Pinus.

Fire Bush (*Cratægus pyracantha*)—see Cratægus.

Fire Cracker (*Brodiæa coccinea & Cuphea platycentra*)—see Brodiæa & Cuphea.

Fish-bone Thistle (*Chamæpeuce casabonæ*)—see Chamæpeuce.

Fischer's Pink (*Dianthus Fischeri*)—see Dianthus.

Fittonia.—*Ord.* Acanthaceæ. Stove evergreen perennial trailing plants. Orn. foliage. *Nat.* Peru. *Int.* 1869. *Species* cultivated, 2; varieties, 2. *Leaves*, dark green or bright green, with carmine, red, or pure white veins. *Compost*, equal parts peat, loam & sand. *Position*, shallow pans, pots, or surface of beds in shady part of plant stove, also in Wardian cases. *Water* moderately Nov. to Feb., freely afterwards. *Temp.*, Oct. to Mar. 55° to 60°, Mar. to Oct. 65° to 75°. *Propagate* by cuttings of firm shoots inserted in sandy soil in temp. 75° to 85° under bell-glass in Feb., Mar. or Ap.; division of plants in Feb. or Mar.

Five-leaves (*Ampelopsis quinquefolia*)—see Ampelopsis.

Five-leaved Indian Cress (*Tropæolum pentaphyllum*)—see Tropæolum.

Flag (*Iris germanica*)—see Iris.

Flame Flower (*Tritoma uvaria*)—see Tritoma.

Flame-flowered Indian Cress (*Tropæolum speciosum*)—see Tropæolum.

Flame-flowered Nasturtium (*Tropæolum speciosum*)—see Tropæolum.

Flame Nettle (*Coleus Blumei*)—see Coleus.

Flamingo Plant (*Anthurium Scherzerianum*)—see Anthurium.

Flannel Plant (*Verbascum Thapsus*)—see Verbascum.

Flap Dock (*Digitalis purpurea*)—see Digitalis.

Flaw Flower (*Anemone pulsatilla*)—see Anemone.

Flax (*Linum usitatissimum*)—see Linum.

Flax Lily (*Phormium tenax*)—see Phormium.

Flax-tail (*Typhea latifolia*)—see Typhea.

Flesh-coloured Speedwell (*Veronica incarnata*)—see Veronica.

Fleshy-leaved Wax-flower (*Hoya carnosa*)—see Hoya.

Fleur-de-Lis (*Iris pseudo-acorus*)—see Iris.

Florence Oil-plant (*Olea europæa*)—see Olea.

Florentine Iris (*Iris florentina*)—see Iris.

Florentine Rock-rose (*Cistus florentinus*)—see Cistus.

Florida Water Lily (*Nymphæa flava*)—see Nymphæa.

Florida Yew (*Taxus floridana*)—see Taxus.

Flower-de-Luce (*Iris pseudo-acorus*)—see Iris.

Flower-fence (*Cæsalpinia pulcherrima*)—see Cæsalpinia.

Flower-gentle (*Amarantus tricolor*)—see Amarantus.

Flower-of-a-day (*Tradescantia virginica*)—see Tradescantia.

Flower-of-an-hour (*Hibiscus Trionum*)—see Hibiscus.

Flower-of-Bristow (*Lychnis chalcedonica*)—see Lychnis.

Flower-of-Constantinople (*Lychnis chalcedonica*)—see Lychnis.

Flower-of-Tigris (*Tigridia pavonia*)—see Tigridia.

Flower-of-the-Axe (*Lobelia urens*)—see Lobelia.

Flower-of-the-Dead (*Oncidium tigrinum*)—see Oncidium.

Flowering Ash (*Fraxinus ornus*)—see Fraxinus.

Flowering Dogwood (*Cornus florida*)—see Cornus.

Flowering Fern (*Osmunda regalis*)—see Osmunda.

Flowering Grass (*Anomatheca cruenta*)—see Anomatheca.

Flowering Nutmeg-tree (*Leycesteria formosa*)—see Leycesteria.

Flowering Rush (*Butomus umbellatus*)—see Butomus.

Flowering Shot (*Canna indica*)—see Canna.

Fly Orchis (*Ophrys mucifera*)—see Ophrys.

Fly-trap (*Dionæa muscipula*)—see Dionæa.

Fly Honeysuckle (*Lonicera xylostemma*)—see Lonicera.

Fœniculum (Fennel).—*Ord.* Umbelliferæ. Hardy perennial herb. Leaves used for sauces & garnishing. *Nat.* Britain, Europe. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary. *Position*, sunny border. *Plant*, Mar, or Ap., 12 in. apart in rows 15 in. asunder. *Remove* flower stems as soon as seen, unless seed is wanted. *Propagate* by seeds sown ' in. deep in drills 6 in. apart in Mar.; division of roots in Mar.

Forbidden Fruit (*Citrus decumana*)—see Citrus.

Forget-me-not (*Myosotis palustris*)—see Myosotis.

Forked Bellflower (*Campanula erinus*)—see Campanula.

Forked Spleenwort (*Asplenium septentrionale*)—see Asplenium.

Forsythia (Japanese Golden-ball-tree, Chinese Golden-ball-tree).—*Ord.* Oleaceæ. Hardy flowering shrubs. Deciduous. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 6 to 10 ft. *Species* cultivated, 2; variety, 1. *Flowers*, yellow; Feb. to May. *Outdoor culture: Soil*, ordinary. *Position*, against south or west walls, or in sheltered parts of shrubbery. *Plant*, Oct. to Feb. *Prune* after flowering. *Pot culture: Compost*, two parts loam, one leaf-mould & sand. *Position*, well drained pots in cool or warm greenhouse Dec. to May, outdoors remainder of year. *Pot*, Oct. to Dec. *Water* very little till Mar., then apply freely. *Propagate* by cuttings inserted in sandy soil under bell-glass or handlight, or in cold frame, Oct. or Nov.; layering in Oct. or Nov.; grafting on the privet in Mar. or Ap.

Fortune's Bamboo (*Bambusa Fortunei*)—see Bambusa.

Fortune's Plantain Lily (*Funkia Fortunei*)—see Funkia.

Fortune's Round-leaved Box-tree (*Buxus sempervirens*)—see Buxus.

Fothergilla (American Witch Elder).—*Ord.* Hamamelideæ. Hardy flowering shrub. Deciduous. *Nat.* N. America. *Int.* 1765. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties, 4. *Flowers*, white, fragrant; Ap. to June. *Soil*, sandy peat. *Position*, moist shrubbery, borders. *Plant*, Oct. to Mar. *Prune* after flowering. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pans of moist sandy peat in temp. of 45° to 55° in Mar. or Ap.; layering shoots in Oct. or Nov.

Four-leaved Shamrock (*Trifolium repens purpureum*)—see Trifolium.

Fountain Plant (*Amarantus salicifolius*)—see Amarantus.

Fountain Tree (*Cedrus deodora*)—see Cedrus.

Fourcroya—see Furcræa.

Fox Bane (*Aconitum vulparia*)—see Aconitum.

Fox Chop (*Mesembryanthemum vulpinum*)—see Mesembryanthemum.

Foxglove (*Digitalis purpurea*)—see Digitalis.

Fox Rose (*Rosa spinosissima*)—see Rosa.

Fox's-brush Saxifrage (*Saxifraga lantoscana*)—see Saxifraga.

Fragaria (Common Strawberry, Chili Strawberry, Hautbois' Strawberry, Alpine Strawberry, India Strawberry).—*Ord.* Rosaceæ. Hardy or half-hardy perennial fruit-bearing & orn. trailing plants. *Nat.* Britain, Europe, S. & N. America, India, Japan. *Int.* (foreign species) 1629. *Ht.* 6 in. to 1 ft. *Species* cultivated, about 6; varieties numerous. *Culture of Trailing species* (*F. indica*): *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in hanging baskets in cool greenhouse or window, or on sunny well drained rockery. *Pot or plant*, Mar. *Water* moderately. *Apply* liquid manure occasionally in sum. *Culture of Strawberry: Soil*, deep rich sandy loam; clay unsuitable. *Position*, open plots or borders, trenched 2 ft. deep; alpine kind under shade of trees or on banks. *Plant*, Aug., Sept. or Mar. 18 in. apart in rows 2½ ft. asunder; alpines 6 in. apart. *Mulch* annually with manure in Mar., & a thin layer of straw in May. *Water* frequently during June. *Apply* liquid manure as soon as fruit changes colour. *Remove* runners when they appear. *No digging* between rows necessary. *Renew* beds every three or four years. *Pot culture: Compost*, two-thirds calcareous loam, one-third decayed manure, little bone dust. *Position*, on bed of cinder ashes outdoors Aug. to Oct.; frames Oct. to Jan.; greenhouses or vineries after Jan. *Pot* singly in 6-in. pots in Aug. *Water* moderately till Oct., very little till Jan., freely afterwards. *Fertilize* blossoms by means of camel-hair brush. *Thin* fruit when set to a few on each plant. *Plant* out in garden after fruiting. *Temp. for forcing:* Jan. to Mar. 45° to 55°; Mar. to ripening period, 65° to 75°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil outdoors, or in boxes in greenhouse in Mar. or Ap.; by runners pegged on surface of soil in 3-in. pots in June or July, or by removing rooted runners in Aug. Runners rooted into pots best for pot culture.

Fragile Bellflower (*Campanula fragilis*)—see Campanula.

Fragrant Cypress (*Cupressus fragrans*)—see Cupressus.

Fragrant Garland-flower (*Hedychium coronarium*)—see Hedychium.

Fragrant White-flowered Locust-tree (*Robinia pseudo-acacia*)—see Robinia.

Franciscea (Vegetable Mercury).—*Ord.* Scrophulariaceæ. Stove evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1826. *Ht.* 1 to 3 ft. *Species* cultivated, 6; variety, 1. *Flowers*, purple, blue, violet, lavender, white, fragrant; Oct. to Aug. *Compost*, four parts each fibrous peat & leaf-mould, one part loam & sand. *Position*, pots in plant stove. *Pot* immediately after flowering; good drainage and firm potting essential. Prune moderately after flowering. *Pinch* off points of young shoots when latter are 6 in. long. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* freely Mar. to Aug. *Apply* liquid manure to healthy plants in sum. *Temp.*, Oct. to Mar. 50° to 55°; Mar. to Oct. 60° to 70°. *Propagate* by cuttings 2 to 3 in. long, inserted in sand under bell-glass in temp. 60° to 70°, Feb. to Aug.

Francoa (Maiden's Wreath, Wedding-flower).—*Ord.* Saxifragaceæ. Hardy & half-hardy perennial plants. *Nat.* Chili. *Int.* 1830. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, red, white, pink; July, Aug. *Outdoor culture: Soil*, light rich loam. *Position*, sunny sheltered borders, banks or rockeries. *Plant*, Mar. or Ap. *Pot culture: Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in cool greenhouse, frame, or window. *Pot*, Mar. or Ap. *Water* moderately Oct. to Ap., freely afterwards. *Apply* little liquid or artificial manure to plants in flower. *Temp.*, Oct. to Ap. 40° to 50°; Ap. to Sept. 55° to 65°. *Propagate* by seeds sown on the surface of a well drained pan of sandy peat under bell-glass in temp. of 50° to 55° in Feb., Mar. or Ap.; division of plants at potting time.

Frankenia (Sea Heath).—*Ord.* Frankeniaceæ. Hardy flowering plants. Evergreen. *Nat.* Britain, S. Europe, Australia. *Int.* (foreign species), date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 6. *Flowers*, pink, red, rose; June to Aug. *Soil*, light sandy. *Position*, sunny dry rockeries or borders. *Plant*, Oct. or Ap. *Propagate* by division of plants in Oct. or Ap.

Frankincense Pine-tree (*Pinus Tæda*)—see Pinus.

Fraser's Balsam (*Abies Fraseri*)—see Abies.

Fraxinella (*Dictamnus fraxinella*)—see Dictamnus.

Fraxinus (Ash, Flowering Ash, Manna Ash).—*Ord.* Oleaceæ. Hardy deciduous trees. Orn. foliage & flowering. *Nat.* Britain, Europe, U.S. America, N. Africa, Nepaul, Aleppo, Turkestan, Japan. *Int.* (foreign species) 1710. *Ht.* 20 to 50 ft. *Species* cultivated, about 13; varieties several. *Flowers*, white, green, yellow; Mar. to May. *Soil*, ordinary. *Position*, dryish, sheltered. *Plant*, Oct. to Feb. *Prune*, Oct. to Mar. *Propagate* by seeds, buried in dry sand for a year, then sown 1 in. deep in light soil outdoors in Feb., transplanting seedlings when a year old; grafting on common species in Mar.

Free-flowering Andromeda (*Andromeda floribunda*)—see Andromeda.

Free-flowering Chinese Apple (*Pyrus spectabilis floribunda*)—see Pyrus.

Free-flowering Pink (*Dianthus floribundus*)—see Dianthus.

Freesia.—*Ord.* Iridaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.*, date unknown. *Species* cultivated, 2; variety, 1. *Flowers*, yellow, white, orange, violet, very fragrant; May to Aug. *Pot culture: Compost*, equal parts decayed manure, loam, leaf-mould & sand. *Position*, pots in cool greenhouse, frame or window. *Pot*, Aug. to flower in Jan., Oct. for Feb., Nov. for Mar., Dec. for Ap. *Plant* bulbs 1 in. deep & 2 in. apart. *Suitable sized pot*, 4½ in. diameter. *Stand* pots in cool position & give very little water until growth commences. *Water* freely when growth well advanced & until plants have flowered, then gradually decrease supply, keeping soil quite dry till July. *Temp.* not lower than 40°. *Apply* weak liquid or artificial manure to plants showing flower. *Repot*, annually. *Outdoor culture: Soil*, light rich sandy. *Position*, sunny well drained borders S. of England only. *Plant* bulbs 2 in. deep & 2 in. apart in Aug. or Sept. *Protect* in winter. *Propagate* by seeds sown ⅛ in. deep in pots or pans of light sandy soil in cool greenhouse or frame as soon as ripe, or in Mar. or Ap.; by offsets at potting time. *Do* not transplant seedlings first year.

Fremontia (Slippery Elm).—*Ord.* Malvaceæ. Hardy flowering shrub. Deciduous. *Nat.* California. *Int.* 1851. *Ht.* 6 to 12 ft. *Species* cultivated, 1. *Flowers*, yellow; Ap. *Soil*, sandy loam. *Position*, against west or north walls or fences, or in shrubberies S. of England. *Plant*, Oct. to Mar. *Prune* after flowering. *Propagate* by seeds sown ⅛ in. deep in well drained pots of sandy soil in cold frame in autn. or spring; cuttings of young shoots inserted in sandy soil under bell-glass or frame in Mar. or Ap.

French Asparagus (*Ornithogalum pyrenaicum*)—see Ornithogalum.

French Bean (*Phaseolus vulgaris*)—see Phaseolus.

French Cowslip (*Primula auricula*)—see Primula.

French Daffodil (*Narcissus tazetta*)—see Narcissus.

French Furze (*Ulex europæus*)—see Ulex.

French Grass (*Phalaris arundinacea variegata*)—see Phalaris.

French Honeysuckle (*Hedysarum coronarium*)—see Hedysarum.

French Lavender (*Lavandula stœchas*)—see Lavandula.

French Marigold (*Tagetes patula*)—see Tagetes.

French Nut (*Juglans regia*)—see Juglans.

French Rose (*Rosa gallica*)—see Rosa.

French Sparrow Grass (*Ornithogalum pyrenaicum*)—see Ornithogalum.

French Willow (*Epilobium angustifolium*)—see Epilobium.

Fresh-water Soldier (*Stratiotes aloides*)—see Stratiotes.

Friar's Caps (*Aconitum napellus*)—see Aconitum.

Fringe Flower (*Schizanthus pinnatus*)—see Schizanthus.

Fringe Tree (*Chionanthus virginica*)—see Chionanthus.

Fringed Pink (*Dianthus superbus*)—see Dianthus.

Fringed Rhododendron (*Rhododendron ciliatum*)—see Rhododendron.

Fringed Sandwort (*Arenaria ciliata*)—see Arenaria.

Fringed Water Lily (*Villarsia nymphæoides*)—see Villarsia.

Fringed-flowered Rose Mallow (*Hibiscus Rosa-sinensis schizopetalus*)—see Hibiscus.

Fritillaria (Fritillary, Crown Imperial, Chequered Daffodil, Chequered Lily, Drooping Tulip, Guinea-Hen-flower, Snake's-head Fritillary, Toad Lily, Persian Lily, Scarlet Fritillary, Pyrenean Fritillary, Broad-leaved Fritillary).—*Ord.* Liliaceæ. Hardy bulbous plants. Deciduous. *Nat.* Britain, Caucasus, Silicia, Greece, Spain, Maritime Alps, Asia Minor, Persia, Turkestan, Altai Mountains, Siberia, China, Japan, N. America. *Int.* (foreign species) 1596. *Ht.* 6 in. to 3 ft. *Species* cultivated, about 30; varieties many. *Flowers*, purple, brown, lilac, crimson, green, rose, violet, blue, scarlet, white; Mar. to Aug. *Outdoor culture: Soil*, ordinary, deep rich. *Position*, shady borders for Crown Imperial & Snake's-head Fritillary; well drained open borders for other species. *Plant*, 4 to 6 in. deep & 6 to 8 in. apart, Sept. to Nov. *Top-dress* annually with decayed manure. *Do* not transplant bulbs oftener than once in four years. *Pot culture: Compost*, equal parts loam, peat, leaf-mould, decayed manure & sand. *Position*, well drained pots in cold frame or cold greenhouse. *Pot*, Sept. or Oct., placing one bulb in centre of 5, 6, or 8-in. pot. *Water* very little till growth begins, then give moderate supply. *Apply* liquid manure when plants show flower. *After* flowering gradually withhold water, keeping soil quite dry after foliage has died. *Propagate* by seeds sown ⅛ in. deep in pots or pans of sandy soil in cold frame or greenhouse as soon as ripe, or in spring; by offsets at planting time. *Do* not transplant seedlings first year. *Seedlings* do not flower until four to six years old.

Fritillary (*Fritillaria meleagris*)—see Fritillaria.

Frœbel's Begonia (*Begonia Frœbeli*)—see Begonia.

Frog Orchis (*Habenaria viridis*)—see Habenaria.

Fuchsia (Ear Drops, Lady's Ear Drops, Brilliant Fuchsia, Scarlet Fuchsia, Globe-flowered Fuchsia, Slender Fuchsia, Small-leaved Fuchsia, Basket Fuchsia, Thyme-leaved Fuchsia).—*Ord.* Onagraceæ. Greenhouse & hardy flowering shrubs. Deciduous. *Nat.* Brazil, Organ Mountains, Bolivia, Peru, Mexico, Columbia, Chili, Trop. America, Central America, W. Indies. *Int.* 1788. *Ht.* 3 to 8 ft. *Species* cultivated, 25; varieties innumerable. *Flowers*, nearly all shades of colour; sum. *Pot culture: Compost*, two parts good fibrous loam, one part well decayed manure & leaf-mould, with liberal quantity of silver or river sand. *Position*, shady part of greenhouse or window Mar. to July; sunny place outdoors July to Oct.; cool dry part of greenhouse or room remainder of year. *Pot* old plants in Feb. or Mar., young ones when needed. *Prune* old plants in Feb. *Water* moderately Mar. to May, freely May to Oct., very little at other times. *Temp.*, Oct. to Feb. 40° to 45°; Feb. to Oct. 55° to 65°. *Apply* liquid or artificial manure to healthy plants showing flower. *Pinch* out points of shoots frequently in spring & early sum. to induce bushy growth. *When* repotting old plants, remove soil from roots & place latter in small pots till growth begins, then shift into larger size. *Syringe* foliage Feb. to May. *Outdoor culture: Soil*, ordinary, deep rich. *Position*, well drained borders, base of south or west walls, or in sheltered position in the open S. of England. *Plant*, Oct. or Ap. *Prune* shoots off close to base in Nov. *Protect* in winter with layer of manure or leaves. *Sum. culture in Beds: Plant* out in June. *Lift*, pot & store plants in greenhouse in Sept. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of light sandy soil in temp. 55° in Mar. or Ap.; cuttings of young shoots inserted singly in small pots of sandy soil in temp. 70° to 80° in Jan., Feb. or Mar., or in cool greenhouse or window in Ap., May or June.

Fuet (*Sempervivum tectorum*)—see Sempervivum.

Fulham Oak (*Quercus cerris Fulhamensis*)—see Quercus.

Fuller's Herb (*Saponaria officinalis*)—see Saponaria.

Fuller's Teazel (*Dipsacus Fullonum*)—see Dipsacus.

Funereal Cypress (*Cupressus funebris*)—see Cupressus.

Fumaria (Rampant Fumitory).—*Ord.* Fumariaceæ. Hardy annual climber. *Nat.* Europe (Britain), Asia. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, white, purple; May to Sept. *Soil*, ordinary. *Position*, against S.E. or W. walls, in open borders with shoots running up sticks, or against arbours & trellis-work. *Propagate* by seeds sown $\frac{1}{16}$ in. deep, in Ap., where plants are to grow & flower.

Fume-wort (*Corydalis aurea*)—see Corydalis.

Funkia (Plantain Lily, Japanese Day Lily, Corfu Lily).—*Ord.* Liliaceæ. Hardy orn. foliaged herbaceous plants. Deciduous. *Nat.* Japan, China, Siberia. *Int.* 1790. *Ht.* 1 to 2 ft. *Species* cultivated, 6; varieties several. *Flowers*, lilac, white, fragrant; June to Sept. *Leaves*, large, deep green or variegated with white & yellow. *Soil*, ordinary, well enriched with decayed manure. *Position*, open sunny well drained borders. *Plant*, Oct. or Mar. *Top-dress* annually with decayed manure. *Pot culture: Compost*, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame Oct. to Mar., greenhouse or window Mar. to Oct. *Pot*, Mar. or Ap. *Water* moderately Oct. to Mar., freely Mar. to Oct. *Apply* liquid manure to healthy plants in flower. *Propagate* by division of crowns in Oct., Mar. or Ap.

Furcræa (Giant Mexican Lily).—*Ord.* Amaryllidaceæ. Greenhouse succulent plants. Orn. foliage. *Nat.* Mexico, Trop. America, S. America. *Int.* 1690. *Ht.* 3 to 30 ft. *Species* cultivated, 8. *Flowers*, green, white, yellow;

May to Nov. *Leaves*, long, fleshy, & armed with spines. *Compost*, two parts loam, one part old mortar & river sand. *Position*, pots or tubs in greenhouses; may be stood outside June to Sept. *Water* moderately Ap. to Aug., little afterwards. *Pot* every five or six years; good drainage essential. *Temp.*, winter, 50° to 55°; sum. 55° to 65°. *Propagate* by offsets inserted in small pots at any time.

Furze (*Ulex europœus*)—see Ulex.

Gagea (Yellow Star of Bethlehem).—*Ord.* Liliaceæ. Hardy deciduous bulbous plants. *Nat.* Europe (Britain), Asia. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; Mar. or Ap. *Soil*, sandy. *Position*, sunny borders, or in turf. *Plant* 3 in. deep & 3 in. apart, Aug. to Nov. *Lift* only when bulbs unhealthy. *Propagate* by offsets, treated as advised for bulbs.

Gaiter Tree (*Cornus sanguinea*, *Euonymus europœus*, & *Viburnum opulus*)—see Cornus, Euonymus, & Viburnum.

Gale (*Myrica gale*)—see Myrica.

Galingale (*Cyperus longus*)—see Cyperus.

Gallegaskins (*Primula veris*)—see Primula.

Gallow Grass (*Cannabis sativa*)—see Cannabis.

Gadrise Tree (*Cornus sanguinea*, *Euonymus europœus*, & *Viburnum opulus*)—see Cornus, Euonymus, & Viburnum.

Gaillardia (Blanket-flower).—*Ord.* Compositæ. Hardy annual & perennial herbaceous plants. *Nat.* U.S. America, Texas. *Int.* 1787. *Ht.* 18 in. to 3 ft. *Species* cultivated, 2 annuals, 1 perennial; varieties numerous. *Flowers*, yellow, crimson, red; June to Oct. *Soil*, moderately light rich. *Position*, sunny well drained beds or borders. *Plant*, Mar. or Ap. *Apply* weak liquid manure to plants in flower. *Mulch* beds with decayed manure in sum. *Propagate* annual & perennial species by seeds sown $\frac{1}{16}$ in. deep in shallow boxes of light mould in temp. 55° to 65° in Ap., transplanting seedlings outdoors in June; perennials & annuals by cuttings of shoots issuing from roots, inserted in sandy soil under hand-light or in cold frame, Aug. to Oct.; perennials by division of plants Oct. or Mar.

Galanthus (Snowdrop, Candlemas Bells, Fair Maids of February.—*Ord.* Amaryllidaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* Britain (?), Pyrenees, Isle of Chios, Greece, Crimea, Caucasus, Smyrna, Central Asia Minor. *Int.*, date unknown. *Ht.* 4 to 12 in. *Species* cultivated, 6; varieties, 41. *Flowers*, white, green, yellow; Feb. to May. *Outdoor culture: Soil*, ordinary rich. *Position*, margins of beds; groups in open or shady borders; banks, rockeries, or in turf. *Plant* bulbs 2 in. deep & 1 in. apart, Sept. to Dec. *Bulbs* must not be lifted annually, only when they show signs of deterioration. *Pot culture: Compost*, two parts ordinary soil, one part leaf-mould & sand. *Position*, cold or warm greenhouse, frame, or window. *Pot*, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 4 or 5-in. pots or shallow pans. *Place* pots, etc., in cold frame or outdoors & cover with cinder ashes until growth begins. *Water* moderately till after flowering, then gradually cease. *Plant* bulbs outdoors following autn. *Propagate* by seeds sown as soon as ripe $\frac{1}{4}$ in. deep & 2 in. apart in shallow boxes filled with light sandy soil & placed at base of north wall outdoors; by offsets treated as bulbs. Seedlings flower when 3 years old.

Galax (Wand-plant).—*Ord.* Diapensiaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1756. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; July. *Compost*, equal parts peat, leaf-mould & silver sand. *Position*, ledges of moist rockery or margin of rhododendron beds. *Plant*, Oct. to Mar. *Propagate* by division of plants Oct. to Mar.

Galaxia.—*Ord.* Iridaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1795. *Ht.* 6 to 10 in. *Species* cultivated, 2. *Flowers*, yellow, purple; May to Sept. *Compost*, two parts sandy peat, one part light loam. *Position*, well drained pots in cold frame or greenhouse.

Pot, Aug. to Nov., placing bulbs with apex just below surface, one in a 5-in., or three in a 6-in. pot. *Cover* pots with ashes till growth begins. *Water* moderately when growth commences, freely afterwards, cease after flowering. *Repot* annually. *Propagate* by seeds sown ⅛ in. deep in well drained pans or shallow boxes of sandy peat in cool greenhouse or frame Aug. or Sept.; by offsets treated as bulbs Aug. to Nov.

Galeandra (Casque-wort). — *Ord.* Orchidaceæ. Stove terrestrial orchids. Deciduous. *Nat.* S. & Trop. America. *Int.* 1840. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, brown, green, purple, white, red, yellow, violet; Mar. to Aug. *Compost*, fibrous peat & charcoal. *Position*, well drained pots, pans, or baskets in light part of stove. *Pot*, Feb. to Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* plants daily Mar. to Aug. *Growing period*, Mar. to Sept. *Resting period*, Sept. to Mar *Temp.* Mar. to June, 65° to 75°; June to Aug. 70° to 80°; Aug. to Nov. 60° to 70°; Nov. to Mar. 55° to 65°. *Propagate* by division of plants at potting time.

Galega (Goat's Rue).—*Ord.* Leguminosæ. Hardy perennial herbs. *Nat.* S. Europe, Caucasus, Persia. *Int.* 1568. *Ht.* 2 to 4 ft. *Species* cultivated, 2; variety, 1. *Flowers*, blue, white; June to Sept. *Soil*, ordinary. *Position*, open borders or shrubberies. *Plant*, Oct. to Mar. *Cut* down flower stems in Oct. *Replant* every two or three years. *Propagate* by seeds sown ¼ in. deep in Ap. in ordinary soil in sunny position; division of roots in Oct. to Mar.

Galeopsis (Holy Hemp, Bee Nettle).—*Ord.* Labiateæ. Hardy annual flowering herbs. *Nat.* Europe (Britain). *Ht.* 8 to 10 in. *Species* cultivated, 2. *Flowers*, purple, yellow; May to Oct. *Soil*, ordinary. *Position*, open sunny borders or beds. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are to flower.

Gallant Flower (*Anemone coronaria*)—see Anemone.

Galtonia (Spire Lily).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* S. Africa. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1; variety, 1 (variegated). *Flowers*, white, fragrant; June to Oct. *Outdoor culture: Soil*, ordinary rich, well drained. *Position*, open sunny borders. *Plant*, Oct. to Mar., placing bulbs 6 in. deep & 6 in. apart. *Lift* & replant only when the bulbs show signs of deterioration. *Pot culture: Compost*, two parts loam, one part decayed manure & silver sand. *Position*, cold or warm greenhouse. *Pot*, Oct. to Dec. to flower in spring; Feb. to Ap. to flower in autn. *Place* one bulb with apex just showing through surface of soil in a well drained 6-in. pot. *Cover* with ashes in cold frame until growth begins. *Water* moderately when leaves appear; freely when in full growth; keep nearly dry after flowering. *Apply* weak liquid manure occasionally to plants in flower. *Bulbs* not adapted for flowering second time in pots. *Propagate* by seeds sown ⅛ in. deep in shallow boxes of sandy soil in cold frame Oct. or Mar.: offsets treated as bulbs in autn. *Seedlings* flower when four or five years old.

Gamboge Tree (*Garcinia Morella pedicellata*)—see Garcinia.

Garcinia (Mangosteen-tree, Gamboge-tree).—*Ord.* Guttiferæ. Stove evergreen fruit-bearing tree. Orn. foliage. *Nat.* Molucca Islands. *Int.* 1789. *Ht.* 6 to 10 ft. *Species* cultivated, 1. *Flowers*, red; June to Dec. *Fruit*, size of an orange; chestnut-brown colour; edible. *Compost*, two parts peat, one part loam & sand. *Position*, pots or boxes in light part of plant stove. *Pot* & prune, Feb. to Mar. *Temp.*, Mar. to Oct. 65° to 85°; Oct. to Mar. 55° to 65°. *Water* moderately Sept. to Ap., freely other times. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in silver sand under bell-glass in temp. 75° to 85° in spring or sum.

Garden Anemone (*Anemone coronaria*)—see Anemone.

Garden Angelica (*Angelica officinalis*)—see Angelica.

Garden Bean (*Faba vulgaris hortensis*)—see Faba.

Garden Cinquefoil (*Potentilla hybrida*)—see Potentilla.

Garden Cress (*Lepidium sativum*)—see Lepidium.

Garden Hedge Asparagus of Madeira (*Asparagus albus*)—see Asparagus.

Garden Parsley (*Petroselinum sativum*)—see Petroselinum.

Garden Pea (*Pisum sativum*)—see Pisum.

Garden Pink (*Dianthus plumarius*)—see Dianthus.

Garden Rhubarb (*Rheum rhaponticum*)—see Rheum.

Garden Rocket (*Hesperis matronalis*)—see Hesperis.

Garden Valerian (*Valeriana phu*)—see Valeriana.

Gardener's-delight (*Lychnis coronaria*)—see Lychnis.

Gardener's-garters (*Phalaris arundinacea variegata*)—see Phalaris.

Gardenia (Cape Jasmine).—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Sierra Leone, Cape of Good Hope, China, Japan. *Int.* 1754. *Ht.* 1 to 10 ft. *Species* cultivated, 5; varieties, 4. *Flowers*, white, fragrant; Jan. to Dec. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well-drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 55° to 65°. *Water* moderately Oct. to Feb., freely afterwards. *Syringe* daily (except when in bloom) Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.

Garget (*Phytolacca decandra*)—see Phytolacca.

Garland Crab (*Pyrus coronaria*)—see Pyrus.

Garland Flower (*Daphne cneorum*)—see Daphne.

Garlic (*Allium sativum*)—see Allium.

Garlick (*Allium sativum*)—see Allium.

Garnet Berry (*Ribes rubrum*)—see Ribes.

Garrya.—*Ord.* Cornaceæ. Hardy evergreen shrubs. Orn. foliage & flowering. *Nat.* California. *Int.* 1818. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers* (pendulous catkins), male & female borne on separate trees; greenish white; Mar. to June. *Berries*, black. *Soil*, ordinary, well drained. *Position*, against south or west walls outdoors; sheltered shrubberies S. of England. *Plant*, Oct. to Nov. or Mar. to May. Male plant only cultivated; female plant very rare in gardens. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy soil in cold frame Sept. or Oct.; cuttings of firm shoots 3 to 4 in. long inserted in sandy soil under handlight or cold frame Aug. to Sept.; layering shoots in Sept. & Oct.

Garten Berries (*Rubus fructicosus*)—see Rubus.

Gaskins (*Primula veris*)—see Primula.

Gas Plant (*Dictamnus fraxinella*)—see Dictamnus.

Gasteria.—*Ord.* Liliaceæ. Greenhouse evergreen succulent plants. Orn. foliage. *Nat.* Cape of Good Hope. *Int.* 1731. *Ht.* 2 in. to 2 ft. *Species* cultivated, about 12. *Flowers*, red, scarlet, orange; Oct. to Ap. *Leaves*, thick, fleshy, prickly; green, spotted with white, or purple. *Compost*, two parts loam, one part peat, old mortar & river sand. *Position*, well drained pots in sunny greenhouse or window. *Pot*, Mar. or Ap. *Water* moderately Ap. to Sept. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots or pans of sandy soil temp. of 65° Mar. to Aug.

Gatten Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see Cornus, Euonymus, & Viburnum.

Gatteridge Tree (*Cornus sanguinea, Euonymus europæus, & Viburnum opulus*)—see Cornus, Euonymus, & Viburnum.

Gatter Tree (*Cornus sanguinea, Euonymus europæus, & Viburnum opulus*)—see Cornus, Euonymus, & Viburnum.

Gaultheria (Canada Tea, Creeping Winter-green, Partridge Berry, Shallon Shrub, Box Berry).—*Ord.* Ericaceæ. Hardy evergreen shrubs. *Nat.* N. America. *Int.* 1762. *Ht.* 6 in. to 4 ft. *Species* cultivated, 2. *Flowers*, white, red; May to Aug. *Berries*, red or purple; edible. *Soil*, peaty. *Position*, moist rockeries or margins of open or shady shrubberies & beds. *Plant*, Sept. to Nov. or Mar. to May. *Propagate* by seeds sown ¼ in. deep in bed of peaty soil outdoors in autn.

Gaura.—*Ord.* Onagrariaceæ. Hardy perennial herb. *Nat.* Texas. *Int.* 1850. *Ht.* 4 ft. *Species* cultivated, 1. *Flowers*, rose, white; May to Sept. *Soil*, light rich. *Position*, sunny well drained beds or borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil outdoors Ap., transplanting seedlings when 1 in. high to flowering position. Best treated as an annual.

Gay-bine (*Convolvulus nil*)—see Convolvulus.

Gay-feather (*Liatris pycnostachya*)—see Liatris.

Gazania (Treasure-flower).—*Ord.* Compositæ. Half-hardy evergreen shrubs & perennial herbs. *Nat.* Cape of Good Hope. *Int.* 1755. *Ht.* 12 to 18 in. *Species* cultivated, 4; varieties several. *Flowers*, yellow, orange, black, white, green; June to Sept. *Indoor culture: Compost*, two parts loam & one of peat & sand. *Position*, well drained pots in sunny part of greenhouse. *Pot*, Mar. or Ap. *Water* very little Oct. to Mar., moderately other times. *Prune* into shape, Mar. *Temp.*, Mar. to Sept. 55° to 75°; Sept. to Mar., 45° to 55°. *Outdoor culture: Soil*, ordinary. *Position*, sunny; edgings to beds, or trailing over ledges of rockery. *Plant*, June. *Lift* in Oct. & place in pots in heated greenhouse for the winter. *G. splendens* only adapted for outdoor culture. *Propagate* by cuttings of side shoots removed from base of plant & inserted in boxes of sandy soil or in a bed in cold frame July to Sept.; cuttings may remain in cold frame if protected from frost.

Gazles (*Ribes nigrum*)—see Ribes.

Gean Tree (*Prunus avium*)—see Prunus.

Geissorhiza (Tile-root).—*Ord.* Iridaceæ. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 6 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, purple, blue, crimson; Ap. to June. *Compost*, two parts sandy peat & one of light loam. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing bulbs with apex just below surface, one in a 5-in., or three in a 6-in. pot. *Cover* pots with ashes till growth begins. *Water* moderately when leaves appear, freely afterwards, withholding completely after flowering. *Repot* annually. *Propagate* by seeds sown ⅛ in. deep in well drained pans or shallow boxes of sandy peat placed in cool greenhouse or frame Aug. or Sept.; offsets treated as bulbs, Aug. to Nov.

Genetyllis.—*Ord.* Myrtaceæ. Greenhouse evergreen shrubs. *Nat.* Australia. *Int.* 1854. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, rose, red, yellow, crimson; Mar. to Aug. *Compost*, equal parts loam, peat & sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly Feb. or Mar. *Water* moderately Sept. to Mar., freely Mar. to Sept. *Prune*, Feb. or Mar. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of young shoots 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 40° to 50° in Ap. or May.

Genista (Broom, Needle Furze, Petty Whin).—*Ord.* Leguminosæ. Hardy deciduous flowering shrubs. *Nat.* Britain, Sicily, Sardinia, Naples, S. Portugal, Madeira, Asia. *Int.* (foreign species) 1750. *Ht.* 6 in. to 15 ft. *Species* cultivated, about 6. *Flowers*, yellow, pink, white; May to Sept. *Soil*, ordinary. *Position*, shrubbery for tall species, rockery for dwarf kinds. *Plant*, Oct. to Mar. *Prune* after flowering. *Propagate* by seeds sown ¼ in. deep outdoors in Mar. or Ap.; by layering in Oct. or Nov.; grafting on laburnum in Mar.; budding on similar stocks in July.

Gentian (*Gentiana acaulis*)—see Gentiana.

Gentian Gromwell (*Lithospermum prostratum*)—see Lithospermum.

Gentian Speedwell (*Veronica gentianoides*)—see Veronica.

Gentiana (Harvest Bells, Lung-flower, Wind-flower, Autumn Bell-flower, Calathian Violet, Gentian, Gentianella).—*Ord.* Gentianaceæ. Hardy perennial herbs. *Nat.* Britain, Pyrenees, Alps, Bavaria, Himalayas, Siberia, Persia, United States, California. *Int.* (foreign species) 1596. *Ht.* 3 in. to 4 ft. *Species* cultivated, about 20. *Flowers*, blue, yellow; Ap. to Dec. *Compost*, two parts good loam, one part peat & one part grit or broken limestone & coarse sand. *Position*, sunny borders for *G. acaulis* & tall kinds, sunny rockeries for *G. verna;* both to be fairly dry in winter & moist in sum. *Plant*, Sept., Oct., Mar. or Ap. *Top-dress* in Mar. with little decayed cow manure. *Water* freely on dry soils in sum. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots or pans of sandy loam in cold frame, Mar.; division of plants Mar. Seeds take one to two years to germinate, & soil must be kept moderately moist.

Gentianella (*Gentiana acaulis*)—see Gentiana.

Geonoma.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Columbia, Brazil, Costa Rica, Nicaragua, New Grenada, Venezuela, Chipias. *Int.* 1820. *Ht.* 3 to 10 ft. *Species* cultivated, about 15. *Leaves*, feather-shaped; pale green. *Compost*, two parts peat, one part loam, sand & charcoal. *Position*, pots in moist shady part of plant stove. *Pot*, Feb. or Mar. *Water* freely Oct. to Feb., abundantly other times. *Syringe* daily. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 70°. *Propagate* by seeds sown 1 in. deep in above compost in pots in temp. 85° Mar.; offshoots from base of plants in small pots in temp. 80° to 85°, any time.

Georgia Bark-tree (*Pinckneya pubens*)—see Pinckneya.

Georgia Pine-tree (*Pinus australis*)—see Pinus.

Georgian Fleabane (*Inula glandulosa*)—see Inula.

Georgina—original name for Dahlia.

Geranium (Crane's-bill).—*Ord.* Geraniaceæ. Hardy herbaceous perennials. *Nat.* Britain, Pyrenees, Italy, Madeira, Georgia, Iberia, Siberia, Himalayas, Nepaul, Tauria, N. America. *Int.* (foreign species) 1576. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 16. *Flowers*, red, purple, violet, rose, lilac, brown, black, blue, crimson; May to Oct. *Soil*, ordinary rich. *Position*, tall kinds in sunny well drained borders, dwarf kinds on sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Apply* weak liquid manure occasionally to established plants in flower. *Propagate* by seeds sown ⅛ in. deep in ordinary soil in sunny position outdoors Mar. or Ap., or in shallow boxes of sandy soil in cold frame or greenhouse Mar.; division of roots, Oct., Nov., Mar. or Ap.

Geranium-leaved Begonia (*Begonia geranioides*)—see Begonia.

German Camomile (*Matricaria chamomilla*)—see Matricaria.

German Catchfly (*Lychnis viscaria*)—see Lychnis.

German Iris (*Iris germanica*)—see Iris.

German Lilac (*Centranthus ruber*)—see Centranthus.

German Pink (*Dianthus Carthusianorum*)—see Dianthus.

Germander (*Teucrium chamædrys*)—see Teucrium.

Gesnera.—*Ord.* Gesneriaceæ. Stove tuberous-rooted & herbaceous perennials. Flowering & orn. foliage. *Nat.* Brazil, Columbia, Mexico. *Int.* 1752. *Ht.* 1 to 2 ft. *Species* cultivated, about 12; hybrids & varieties, several. *Flowers*, scarlet, yellow, red, pink, lilac, purple, vermilion, white; all the year round. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained pots or pans in shady part of plant stove. *Pot*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* tubers 1 in. deep singly in 5-in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering* gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 55° to 75°. *Store* when foliage has died down on their sides under stage till potting time in temp. of 50° to 55°. *Propagate* by seeds sown on surface of well drained pots of sandy peat, in temp. 75°, Mar. or Ap.; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; fully matured leaves pegged on surface of pots of sandy peat in temp. 75° to 85°.

Gethyllis (Cape Crocus).—*Ord.* Amaryllidaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1780. *Ht.* 6 to 9 in. *Species* cultivated, 4. *Flowers*, white; June to Aug. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots in cold greenhouse or frame. *Pot*, Aug. to Nov., placing bulbs singly in 5-in. pots, with points just below surface. *Cover* with ashes in cold frame or greenhouse till growth begins. *Water* moderately from time growth begins till flowers fade; keep quite dry after foliage has died down until potting time. *Repot* annually. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of sandy soil in cold frame or greenhouse, Mar. or Ap.; offsets treated as bulbs at potting time.

Geum (Avens).—*Ord.* Rosaceæ. Hardy perennial flowering herbs. *Nat.* Europe (Britain), Asia Minor, Himalayas, N. America, Chiloe. *Int.* (foreign species) 1730. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8; variety, 1. *Flowers*, scarlet, purple, yellow, red, white; single & double; May to Sept. *Soil*, ordinary rich. *Position*, tall species in sunny borders, dwarf species on sunny rockeries. *Plant*, Oct. to Ap. *Cut* down flower stems in Sept. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in shallow boxes or well drained pots of light soil in cold frame, Ap. or July, or in sunny positions (similar depth & soil) outdoors, Ap. or Aug.; division of plants, Oct. to Ap.

Gherkin (*Cucumis sativa*)—see Cucumis.

Giant Arborvitæ (*Thuia gigantea*)—see Thuia.

Giant Asparagus (*Asparagus Broussoneti*)—see Asparagus.

Giant Catchfly (*Silene gigantea*)—see Silene.

Giant Cow-parsnip (*Heracleum giganteum*)—see Heracleum.

Giant Dahlia (*Dahlia imperialis*)—see Dahlia.

Giant Globe-flower (*Trollius Loddigesi*)—see Trollius.

Giant Gum-tree (*Eucalyptus amygdalina*)—see Eucalyptus.

Giant Heart-leaved Lily (*Lilium cordifolium giganteum*) — see Lilium.

Giant Ivy (*Hedera Helix Rægneriana*)—see Hedera.

Giant Knot-weed (*Polygonium Sieboldi*)—see Polygonium.

Giant Lily (*Lilium giganteum*)—see Lilium.

Giant Meadow-saffron (*Colchicum speciosum*)—see Colchicum.

Giant St. Bruno's Lily (*Anthericum liliastrum majus*) — see Anthericum.

Giant Sea-holly (*Eryngium giganteum*)—see Eryngium.

Giant Solomon's-seal (*Polygonatum giganteum*)—see Polygonatum.

Gibraltar Candytuft (*Iberis gibraltarica*)—see Iberis.

Gilia.—*Ord.* Polemoniaceæ. Hardy annuals. *Nat.* California, Colorado, Chili. *Int.* 1826. *Ht.* 9 to 15 in. *Species* cultivated, 8. *Flowers*, lilac, pink, white, rose, purple, yellow, blue; May to Sept. *Soil*, ordinary. *Position*, sunny; dwarf kinds as edgings to beds or borders, tall kinds in groups in borders or beds. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in Ap., where plants are to flower, thinning seedlings out in May 1 to 3 in. apart.

Gill (*Chrysanthemum segetum*)—see Chrysanthemum.

Gillenia (Bowman's-root, Indian Physic, Western Dropwort).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* United States. *Int.* 1713. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, red, white; June to July. *Soil*, peaty. *Position*, moist shady bed or border. *Plant*, Oct. to Dec., or Mar. *Cut* down flowering stems in Sept. *Propagate* by division of roots in Mar. or Ap.

Gilliflower (*Dianthus caryophyllus* & *Cneiranthus Cheiri*)—see Dianthus & Cheiranthus.

Gillyflower (*Dianthus caryophyllus* & *Cheiranthus Cheiri*)—see Dianthus & Cheiranthus.

Ginger Pine-tree (*Cupressus Lawsoniana*)—see Cupressus.

Ginkgo (Ginkgo-tree, Maidenhair-tree).—*Ord.* Coniferæ. Hardy deciduous coniferous tree. Orn. foliage. *Nat.* Northern China. *Int.* 1754. *Ht.* 60 to 80 ft. *Species* cultivated, 1; varieties, 3. *Flowers*, male & female borne on separate trees; spring. *Fruit*, small, globular; edible. *Leaves*, fan-shaped; green & variegated. *Soil*, ordinary well drained. *Position*, sheltered shrubberies or lawns S. of England, against south or west walls other parts. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in pans of light sandy soil in cold frame, Oct. or Mar.

Ginseng (*Panax elegans*)—see Panax.

Glacier Pink (*Dianthus glacialis*)—see Dianthus.

Gladiolus (Corn Flag, Sword Lily).—*Ord.* Iridaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* S. Europe, Turkey, S. Africa. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 22; hybrids & varieties numerous. *Flowers*, various; June to Nov. *Outdoor culture: Soil*, deep rich, liberally manured. *Position*, sunny, sheltered, well drained beds or borders. *Plant* early-flowering kinds Nov., Feb. or Mar., late kinds Mar., Ap. or May. *Place* corms of early kinds 4 in. deep & 6 in. apart in groups of three, six, or twelve; late kinds 3 in. deep & 12 in. apart in similar sized groups; put a little silver sand under each corm. *Protect* early kinds in winter with layer of manure. *Apply* liquid manure when flower buds form. *Fix* sticks to spikes when 2 or 3 in. high. *Lift* corms of early kinds in Sept., late kinds in Oct. or Nov., & store in cool place till planting time. *Pot culture: Compost*, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame, cool greenhouse or window. *Pot* early kinds Oct. to Mar., placing five corms 1 in. deep in a 6-in. pot; late kinds Mar. or Ap., one 1 in. deep in a 6-in. pot, or three 1 in. deep in an 8-in. pot. *Place* pots in cold frame till flower spikes show, then remove to greenhouse or window. *Water* moderately at first, freely afterwards. *Apply* liquid manure when flower spikes show. *After flowering*, gradually withhold water till foliage dies, then keep quite dry till repotted. *Forcing: Pot* early kinds Oct. to Dec. *Temp.*, 55° to 65°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans of light rich soil in Feb., in temp. 55° to 65°; by bulbils (spawn) growing at base of corms, planted 2 in. deep & 6 in. apart in sunny border outdoors, Mar. Seedlings flower when three years old, bulbils when two years old.

Gladwyn (*Iris fœtidissima*)—see Iris.

Glandular St. John's-wort (*Hypericum glandulosum*) — see Hypericum.

Glastonbury Thorn (*Cratægus oxycantha præcox*)—see Cratægus.

Glaucium (Horn Poppy, Sea Poppy).—*Ord.* Papaveraceæ. Hardy biennial herbs. *Nat.* Britain. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, yellow, crimson, purple; May to Sept. *Soil*, ordinary rich. *Position*, sunny well drained beds or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in beds of light soil outdoors in May, transplanting seedlings into flowering position in July or Aug.

Glaucous Adam's-needle (*Yucca gloriosa glaucescens*)—see Yucca.

Glaucous-leaved Himalayan Maple (*Acer glaucum*)—see Acer.

Glaucous-leaved St. John's-wort (*Hypericum glaucum*) — se Hypericum.

Glaucous Stonecrop (*Sedum glaucum*)—see Sedum.

Glechoma (Ground Ivy).—*Ord.* Labiatæ. Hardy trailing perennia Orn. foliage. *Nat.* Britain. *Species* cultivated, 1; variety, 1. *Flowers*, blu Ap. *Leaves*, kidney-shaped, variegated. *Soil*, ordinary. *Position*, sunn rockeries or margins of borders. *Plant*, Oct., Nov., Mar. or Ap. *Propaga* by division of plants Oct. or Mar.

Gerardia (False Foxglove).—*Ord.* Scrophulariaceæ. Hardy annua & herbaceous perennials. *Nat.* United States. *Int.* 1772. *Ht.* 1 to 5 f *Species* cultivated, 2 perennials, 1 annual. *Flowers*, purple, yellow; June t Sept. *Soil*, ordinary. *Position*, well drained sunny borders. *Plant* perennials Oct. or Mar. *Cut* down flowering stems Oct. *Propagate* annuals by seeds sown $\frac{1}{16}$ in. deep in Ap. outdoors where plants are to flower; perennials by seeds sown $\frac{1}{16}$ in. deep in sunny place outdoors in Ap.; cuttings inserted in sandy peat under handlight outdoors, Aug. or Sept.; division of roots in Mar.

Gleditschia (Chinese Honey Locust, Three-thorned Acacia).—*Ord.* Leguminosæ. Hardy ornamental deciduous trees. *Nat.* China, United States. *Int.* 1700. *Ht.* 20 to 50 ft. *Species* cultivated, 2; varieties, 2. *Flowers*, green; July. *Leaves*, feather-shaped, green. *Shoots*, spiny. *Soil*, ordinary. *Position*, sheltered borders or shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in light soil outdoors, Mar., transplanting seedlings when two years old.

Gleichenia (Umbrella Fern, Net Fern).—*Ord.* Filices. Orn. evergreen stove & greenhouse ferns. *Nat.* Australia, New Zealand, Java, Japan, China, Madagascar, Bourbon, Mauritius, Straits of Magellan, Trop. America. *Int.* 1823. *Species* cultivated, 13; varieties, several. *Fronds*, feather-shaped. *Stems*, creeping. *Compost*, two parts fibrous peat, one part fibrous loam, charcoal & sand. *Position*, well drained pans in shady stove or greenhouse. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Syringing* unnecessary. *Temp.*, stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on surface of sandy peat in well drained pots under bell-glass at any time of year; division of creeping stems with roots attached, Feb. or Mar.

Globe Amaranth (*Gomphrena globosa*)—see Gomphrena.

Globe-flowered Fuchsia (*Fuchsia globosa*)—see Fuchsia.

Globe Flower (*Trollius europæus*)—see Trollius.

Globe Thistle (*Echinops ritro*)—see Echinops.

Globularia (Globe Daisy).—*Ord.* Selaginaceæ. Hardy perennial herbs. *Nat.* Europe, Asia Minor. *Int.* 1629. *Ht.* 3 in. to 2 ft. *Species* cultivated, 5. *Flowers*, blue, white; June to Sept. *Soil*, ordinary moist. *Position*, sunny rockeries or margins of borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown on surface in boxes of light sandy soil in cold frame in Mar. or Ap.; division of plants, Oct. or Ap.

Gloriosa (Malabar Glory Lily, Mozambique Lily).—*Ord.* Liliaceæ. Stove flowering climbers. Deciduous & tuberous-rooted. *Nat.* Trop. Asia & Africa. *Int.* 1690. *Ht.* 4 to 10 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, orange, red, yellow; June to Sept. *Compost*, equal parts loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots, with shoots trained to roof or trellis. *Pot*, Feb., placing tubers 2 in. deep, one in a 6-in. pot, or several in an 8 or 12-in. pot. *Water* moderately till growth is well advanced, then freely. *After flowering*, gradually withhold water & keep soil quite dry till potting time. *Temp.*, Feb. to Sept. 70° to 85°; Sept. to Feb. 55° to 65°. *Propagate* by seeds inserted singly $\frac{1}{4}$ in. deep in 3-in. pots filled with light soil in temp. 75° in Feb. or Mar.; offsets removed from large tubers at potting time.

Glory Bush (*Pleroma sarmentosa*)—see Pleroma.

Glory Flower (*Eccremocarpus scaber*)—see Eccremocarpus.

Glory Lily (*Gloriosa superba*)—see Gloriosa.

Glory-of-the-Snow (*Chionodoxa luciliæ*)—see Chionodoxa.

Glory Pea (*Clianthus puniceus*)—see Clianthus.

Glory Pea of New Zealand (*Clianthus Dampieri*)—see Clianthus.

Glory Tree (*Clerodendron fragrans*)—see Clerodendron.

Glossy-flowered St. John's-wort (*Hypericum Hookerianum*)—see Hypericum.

Glossy-leaved Button-flower (*Gomphia nitida*)—see Gomphia.

Glowing Cone-flower (*Rudbeckia fulgida*)—see Rudbeckia.

Gloxinia.—*Ord.* Gesneriaceæ. Stove tuberous-rooted flowering plants. Deciduous. *Nat.* Trop. America, India. *Int.* 1739. *Ht.* 6 to 12 in. *Species* cultivated, 6; hybrids & varieties numerous. *Flowers*, various; May to Sept. *Compost*, equal parts fibrous peat, fibrous loam, leaf-mould, well decayed manure, & a little silver sand. *Position*, well drained pots close to glass in plant stove while growing; greenhouse or conservatory when in flower. *Pot*, Jan., Feb. or Mar. *Place* tubers singly, & just below surface, in 3 or 4-in. pots, shifting into 5 or 6-in. pots when tubers have started growth. *Water* moderately till growth is well advanced, then freely. *Apply* weak liquid manure when flowers show. *After flowering*, gradually withhold water till foliage dies down, then keep quite dry till potting time. *Temp.*, Jan. to Oct. 65° to 75°; Oct. to Jan. 50° to 55°. *Propagate* by seeds sown on surface of fine sandy peat & leaf-mould, in well drained pots or pans in temp. 65° to 75° in Mar.; cuttings of shoots 1 to 2 in. long inserted in small pots of sandy peat under bell-glass in temp. of 65° to 75°; young leaves with stalk inserted in small pots of sandy soil treated as cuttings; matured leaves with mid-ribs cut & laid on surface of sandy peat in temp. 55° to 75°.

Glycyrrhiza (Liquorice-plant).—*Ord.* Leguminosæ. Hardy herbaceous perennials. Orn. foliage & flowering. Edible rooted. *Nat.* Europe. *Int.* 1562. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, blue; May to Sept. *Leaves*, feather-shaped. *Soil*, deep rich sandy. *Position*, open sunny. *Plant*, Feb. or Mar., 18 in. apart & 3 in. deep in rows 3 ft. asunder. *Cut* down foliage & remove creeping stems close to root in Nov. *Roots* ready for use third year after planting. *Propagate* by division of creeping stems, Feb. or Mar.

Gnaphalium (Cudweed, Everlasting).—*Ord.* Compositæ. Hardy & half-hardy perennials. Flowering & orn. foliage. *Nat.* N. America, S. Africa. *Int.*, date unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, white; June to Sept. *Leaves*, downy. *Culture of Hardy species: Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Oct. to Ap. *Culture of Half-hardy species: Soil*, ordinary. *Position*, edgings to beds or borders. *Plant*, June. *Lift* & place in pots in Oct. *Store* in temp. 45° to 55° in winter. *Water* moderately. *Propagate* hardy species by division of roots in Oct. or Mar.; half-hardy species by cuttings inserted in sandy soil in cold frame, protected from frost, in Sept., or in pots of sandy soil in temp. 50° to 60° in spring.

Gnidia.—*Ord.* Thymelaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Cape of Good Hope. *Int.* 1768. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, white, yellow; Mar. to May. *Compost*, two parts fibrous peat, one part loam & silver sand. *Position*, well drained pots near glass in airy greenhouse during autn., winter & spring, cold frame June to Sept. *Pot*, Mar. *Press* compost firmly in pots. *Prune* straggling shoots into shape directly after flowering. *Water* carefully always, giving sufficient to keep soil uniformly moist; rain, not spring water, essential. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to July, 45° to 55°. *Propagate* by cuttings of young shoots 2 in. long inserted in sandy peat in well drained pots under bell-glass in temp. 45° to 55° in Mar., Ap. or May.

Goa Cedar (*Cupressus lusitanica*)—see Cupressus.
Goat's Beard (*Spiræa aruncus*)—see Spiræa.
Goat's Foot (*Oxalis caprina*)—see Oxalis.
Goat's Rue (*Galega officinalis*)—see Galega.
Goat's Thorn (*Astragalus tragacantha*)—see Astragalus.
Goat Willow (*Salix caprea*)—see Salix.

Godetia.—*Ord.* Onagraceæ. Hardy annuals. *Nat.* N.W. America, Mexico, Chili. *Int.* 1826. *Ht.* 1 to 2 ft. *Species* cultivated, about 3; varieties many. *Flowers*, white, crimson, rose; June to Oct. *Outdoor culture: Soil*, ordinary. *Position*, sunny beds or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in patches or masses in Ap. where plants are to flower, or in boxes of light soil in temp. 55° to 65° in Ap., transplanting seedlings outdoors in May. *Thin* seedlings sown outdoors 4 to 6 in. apart in June. *Pot culture: Compost*, two parts good soil, one part leaf-mould, well decayed manure & sand. *Position*, well drained 6-in. pots in cold frame, greenhouse or window. *Sow* seeds thinly in Ap. on surface of soil & lightly cover with fine mould. *Thin* seedlings when 1 in. high to six or eight in each pot. *Water* moderately at first, freely when in full growth. *Apply* liquid manure twice a week when plants show flower.

God's Eye (*Veronica chamædrys*)—see Veronica.

Goldfussia.—*Ord.* Acanthaceæ. Stove evergreen flowering plants. *Nat.* Silhet. *Int.* 1823. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, blue; Oct. to Mar. *Compost*, equal parts loam & leaf-mould, with a little silver sand. *Pot*, Mar. or Ap. *Position*, well drained pots in moist part of stove Mar. to June; sunny cold frame June to Sept.; light stove Sept. to Mar. *Prune* shoots in closely, Feb. *Water* moderately Sept. to Ap., freely other times. *Apply* liquid manure twice a week to plants in flower. *Propagate* by cuttings of moderately firm shoots 2 to 3 in. long inserted in light sandy compost under bell-glass in temp. 75°, Feb., Mar. or Ap.

Gold Basket (*Alyssum saxatile*)—see Alyssum.
Gold-blotched Ivy (*Hedera Helix aureo-maculata*)—see Hedera.
Gold-blotched Privet (*Ligustrum japonicum variegatum*)—see Ligustrum.
Gold Cup (*Ranunculus bulbosus*)—see Ranunculus.
Gold Dust-plant (*Alyssum saxatile* & *Sedum acre*)—see Alyssum & Sedum.
Gold-edged Box-tree (*Buxus sempervirens aurea*)—see Buxus.
Gold-edged Tree Ivy (*Hedera Helix arborea aureo-marginata*)—see Hedera.
Gold Fern (*Gymnogramma chrysophylla*)—see Gymnogramma.
Gold Leaf-plant (*Aucuba japonica*)—see Aucuba.
Gold-and-Purple Toad Flax (*Linaria reticulata aurea-purpurea*)—see Linaria.
Gold-netted Honeysuckle (*Lonicera brachypoda aureo-reticulata*)—see Lonicera.
Gold-striped Holly (*Ilex aquifolium aureo-variegatum*)—see Ilex.
Gold-striped Lily (*Lilium auratum*)—see Lilium.
Golden Amaranth (*Amaranthus salicifolius*)—see Amaranthus.
Golden Arbor-vitæ (*Thuia aurea*)—see Thuia.
Golden Avens (*Geum aureum*)—see Geum.
Golden Ball-tree (*Forsythia suspensa*)—see Forsythia.
Golden Barberry (*Berberis stenophylla*)—see Berberis.
Golden-barked Ash (*Fraxinus excelsior aurea*)—see Fraxinus.
Golden Cassidony (*Helichrysum stæchas*)—see Helichrysum.
Golden Chain (*Laburnum vulgare*)—see Laburnum.

Golden Chickweed (*Stellaria graminea aureo-variegata*)—see Stellaria.

Golden Chinese Arbor-vitæ (*Biota orientalis aurea*)—see Biota.

Golden Daffodil (*Narcissus maximus*)—see Narcissus.

Golden Dead Nettle (*Lamium aureum*)—see Lamium.

Golden Drop (*Onosma tauricum*)—see Onosma.

Golden Elm (*Ulmus Dampieri aurea*)—see Ulmus.

Golden Feather (*Pyrethrum aureum*)—see Pyrethrum.

Golden Fig-Marigold (*Mesembryanthemum aureum*)—see Mesembryanthemum.

Golden Flower of Peru (*Helianthus annuus*)—see Helianthus.

Golden Germander (*Teucrium aureum*)—see Teucrium.

Golden Hair (*Chrysocoma coma-aurea*)—see Chrysocoma.

Golden Locks (*Polypodium vulgare*)—see Polypodium.

Golden Hawk's-beard (*Crepis aurea*)—see Crepis.

Golden Lily (*Amaryllis aurea*)—see Amaryllis.

Golden Moss (*Sedum acre*)—see Sedum.

Golden Mouse-ear (*Hieracium aurantiacum*)—see Hieracium.

Golden Oak (*Quercus pedunculata concordia*)—see Quercus.

Golden Oak of Cyprus (*Quercus alnifolia*)—see Quercus.

Golden Osier (*Salix vitellina* & *Myrica Gale*)—see Salix & Myrica.

Golden Pine-tree (*Pinus Kæmpferi*)—see Pinus.

Golden Plume-like Japan Cypress (*Retinospora plumosa aurea*)—see Retinospora.

Golden Polypody (*Phlebodium aureum*)—see Phlebodium.

Golden Poppy (*Papaver croceum*)—see Papaver.

Golden Rod (*Solidago virgaurea*)—see Solidago.

Golden Saxifrage (*Chrysoplenium alternifolium*) — see Chrysoplenium.

Golden Stæchas (*Helichrysum stæchas plenum*)—see Helichrysum.

Golden Thistle (*Scolymus hispanica*)—see Scolymus.

Golden Urn-flower (*Urceolina aurea*)—see Urceolina.

Golden-edged Cock's-foot Grass (*Dactylis glomerata aurea*)—see Dactylis.

Golden-flowered Currant (*Ribes aureum*)—see Ribes.

Golden-flowered Garlic (*Allium moly*)—see Allium.

Golden-flowered Star-of-Bethlehem (*Ornithogalum aureum*) —see Ornithogalum.

Golden-flowered Yarrow (*Achillea aurea*)—see Achillea.

Golden-leaved Chestnut (*Castanea chrysophylla*)—see Castanea.

Golden-leaved Spindle-tree (*Euonymus japonicus aureo-variegatus*)—see Euonymus.

Golden Pert (*Gratiola aurea*)—see Gratiola.

Golden Rain (*Laburnum vulgare*)—see Laburnum.

Golden Tuft (*Alyssum saxatile* & *Helichrysum stæchas*)—see Alyssum & Helichrysum.

Golden-twigged Lime-tree (*Tilia europæa aurea*)—see Tilia.

Golden-variegated Chinese Juniper (*Juniperus chinensis aurea*)—see Juniperus.

Golden-variegated Elm (*Ulmus campestris foliis aureis*) — see Ulmus.

Golden-variegated Japan Cypress (*Retinospora obtusa aurea*)—see Retinospora.

Golden-variegated Japan Juniper (*Juniperus japonica aurea*)—see Juniperus.

Golden Wand (*Chrysobactron Hookeri*)—see Chrysobactron.

Goldilocks (*Chrysocoma coma-aurea* & *Helichrysum stœchas*)—see Chrysocoma & Helichrysum.

Golds (*Calendula officinalis*, *Caltha palustris*, & *Chrysanthemum segetum*)—see Calendula, Caltha, & Chrysanthemum.

Gomphia (South American Button-flower)—*Ord.* Ochnaceæ. Stove evergreen shrubs. Orn. foliage & flowering. *Nat.* S. America. *Int.* 1868. *Ht.* 5 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow; Ap. to July. *Compost*, two parts fibrous loam, one par t peat, little silver sand. *Position*, pots in light part of plant stove. *Pot*, Feb. or Mar. *Press* compost down firmly in pot. *Prune* into shape Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 50° to 60°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in pots of silver sand under bell-glass in temp. 75° in spring.

Gompholobium.—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. Trailing & erect. *Nat.* Australia. *Int.* 1803. *Ht.* 3 to 18 in. *Species* cultivated, 4; variety 1. *Flowers*, yellow, scarlet, pink, purple; Mar. to Sept. *Compost*, two parts rough peat, one part rough loam, charcoal & sand. *Position*, well drained pots in light part of greenhouse. *Pot*, Feb. or Mar. *Prune* into shape after flowering. *Water* carefully all times. *Temp.*, Sept. to Ap. 45° to 50°; Ap. to Sept. 50° to 60°. *Ventilate* greenhouse freely in sum. *Propagate* by cuttings of young shoots 2 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 45° to 55° in Mar. or Ap.

Gomphrena (Globe Amaranth, Red Globe Everlasting).—*Ord.* Amaranthaceæ. Greenhouse flowering annual. *Nat.* India. *Int.* 1714. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, various; June to Sept. *Compost*, two parts fibrous loam, one part leaf-mould, well decayed cow manure & sand. *Position*, warm greenhouse, exposed to light. *Sow* seeds $\frac{1}{16}$ in. deep in well drained pots of light soil in temp. 75° in Mar. *Transplant* seedlings 1 in. apart when 1 in. high in light soil in well drained pots & keep in temp. of 60° to 75°. *When* seedlings have formed four leaves place singly in 4-in. pots. *Transfer* them in June to 5-in. pots & keep plants near the glass. *Water* moderately. *Syringe* foliage twice daily. *Apply* liquid manure when flowers appear. *Summer* temp., 55° to 65°. *Cut* flowers immediately they are fully developed for drying for winter decoration.

Gongora.—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchids. *Nat.* Trop. America. *Int.* 1824. *Ht.* 12 to 18 in. *Species* cultivated, 5. *Flowers*, purple, yellow, white, red, violet, brown; Mar. to Aug. *Compost*, equal parts rough peat, sphagnum moss & lumps of charcoal. *Position*, hanging baskets in sunny part of stove. *Re-basket*, Feb. or Mar. *Water* abundantly Mar. to Sept., very little other times. *Growing period*, Mar. to Aug. *Resting period*, Aug. to Mar. *Propagate* by division of pseudo-bulbs in Feb.

Goniophlebium.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Mexico, Java, W. Indies, Malacca, Malay Archipelago. *Int.* 1837. *Ht.* 9 to 24 in. *Species* cultivated, about 6. *Fronds* feather-shaped. *Compost*, two parts rough fibrous peat, one part loam, leaf-mould & sand. *Position*, drooping species in baskets; erect kinds in pots, well drained, in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; by division of plants at potting time.

Goniopteris.—*Ord.* Filices. Stove evergreen ferns. *Nat.* New Caledonia, Jamaica, W. Indies, Brazil. *Int.*, date unknown. *Ht.* 6 to 18 in.

Species cultivated, 4. *Fronds* feather-shaped. *Compost*, equal parts loam & peat, little sand. *Position*, pots, well drained, in shady stove. *Pot*, Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. of 75° to 85° any time; by division of plants at potting time.

Good King Henry (*Chenopodium Bonus-Henricus*)—see Chenopodium.

Good-night-at-noon (*Hibiscus trionum*)—see Hibiscus.

Goodyera (Rattlesnake Plantain, Adder's Violet, Scrofula Leaf, Scrofula Weed, Creeping Rattlesnake).—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy terrestrial orchids. Flowering & orn. foliage. *Nat.* Britain, S. & N. America, Japan. *Int.* (foreign species) 1802. *Ht.* 3 to 6 in. *Species* cultivated, 7. *Flowers*, white, yellow, rose, red; Sept. to June. *Leaves*, bronze, chocolate, olive-green, purplish-green, reddish-crimson, variegated with white or yellow. *Culture of stove & greenhouse species: Compost*, two parts fibrous peat, one part loam & sand. *Position*, well drained pots or shallow pans in shady part of stove or greenhouse. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, stove species, 65° to 75° Mar. to Sept., Sept. to Mar. 55° to 65°; greenhouse species, Mar. to Sept. 55° to 65°, 45° to 55° Sept. to Mar. *Culture of hardy species: Compost*, two parts peat, leaf-mould & sand. *Position*, rockery or border, well drained. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Propagate* by cuttings of shoots removed with roots attached, inserted singly in small pots of peaty compost under bell-glass in temp. 45° to 55° in spring.

Gooseberry (*Ribes grossularia*)—see Ribes.

Gooseberry Gourd (*Cucurbita grossularioides*)—see Cucurbita.

Goose-tongue (*Achillea ptarmica*)—see Achillea.

Gordonia (Loblolly Bay).—*Ord.* Ternströmiaceæ. Greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* Trop. Asia, Java, N. America. *Int.* 1739. *Ht.* 3 to 10 ft. *Species* cultivated, 2 greenhouse, 2 hardy. *Flowers*, white, fragrant; July to Nov. *Culture of greenhouse species: Compost*, equal parts peat, leaf-mould, loam, with little sand. *Position*, well drained pots in light, airy greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Culture of hardy species: Compost*, equal parts peat, leaf-mould & sand. *Position*, sheltered shrubberies S. of England, against south walls other parts. *Plant*, Oct. to Feb. *Prune*, Jan. *Protect* in severe weather. *Hardy* species deciduous. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans or shallow boxes of peaty soil in cold frame in Mar. or Ap.; by layering shoots in Oct.

Gordon's Mock-Orange (*Philadelphus Gordonianus*)—see Philadelphus.

Gorgon Plant (*Euryale ferox*)—see Euryale.

Gorse (*Ulex europæus*)—see Ulex.

Gossypium (Cotton-plant, Barbadoes Cotton-plant, Herbaceous Cotton-plant).—*Ord.* Malvaceæ. Stove perennial herbs. *Nat.* Barbadoes, E. Indies. *Int.* 1594. *Ht.* 2 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow, purple; July to Sept. *Fruit* (capsule) furnishes cotton of commerce. *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, well drained pots in sunny part of stove. *Pot*, Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65° *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 65° to 75°, Mar. or Ap. *Transplant* seedlings when 1 in. high singly into 2-in. pots, & thence into 5 or 6-in. pots. *Both* species best treated as annuals.

Gourd (*Cucurbita melopepo*)—see Cucurbita.

Gowan (*Chrysanthemum segetum*)—see Chrysanthemum.

Grammanthes.—*Ord.* Crassulaceæ. Half-hardy annual. *Nat.* S. Africa. *Int.* 1774. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, orange, yellow, red; June to Aug. *Soil*, light sandy. *Position*, sunny rockeries. *Propagate* by seeds sown on surface of sandy soil in well drained pans in temp. 60° to 65° in Mar. *Transplant* seedlings outdoors in May.

Grammatophyllum (Letter-leaf, Letter-plant, Queen of the Orchids.) —*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Manilla, Java, Madagascar. *Int.* 1837. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow purple, green, brown; Aug. to Feb. *Compost*, fibrous peat & charcoal. *Position*, large well drained pots in light part of stove. *Pot*, Feb. or Mar. *Water* freely Feb. to Oct., very little Oct. to Feb. *Temp.*, Feb. to Nov. 65° to 75°; Nov. to Feb. 60° to 65°. *Growing period*, Feb. to Nov. *Resting period*, Nov. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Granadilla Vine (*Passiflora quadrangularis* & *P. edulis*)—see Passiflora.

Grape Fern (*Botrychium lunaria*)—see Botrychium.

Grape Pear (*Amelanchier botryapium*)—see Amelanchier.

Grape Vine (*Vitis vinifera*)—see Vitis.

Grapewort (*Actæa spicata*)—see Actæa.

Graptophyllum (Caricature-plant).—*Ord.* Acanthaceæ. Stove evergreen shrubs. Orn. foliage. *Nat.* Tropics. *Int.* 1780. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties several. *Flowers*, crimson; July to Aug. *Leaves*, variegated. *Compost*, equal parts peat, loam, & a little sand *Position*, well drained pots in moist plant stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Feb. to Oct. 65° to 80°; Oct. to Feb. 55° to 65°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, removed with slice of stem attached to base, inserted in sand in well drained pots under bell-glass in temp. 65° to 75° in Mar., Ap. or May.

Grass-leaved Adam's Needle (*Yucca graminifolia*)—see Yucca.

Grass-leaved Day Lily (*Hemerocallis graminea*) — see Hemerocallis.

Grass-leaved Iris (*Iris graminea*)—see Iris.

Gratiola (Poor-man's-herb, Golden Pert, Hedge Hyssop.—*Ord.* Scrophulariaceæ. Hardy herbaceous perennials. *Nat.* Europe, N. America. *Int.* 1568. *Ht.* 4 to 12 in. *Species* cultivated, 2. *Flowers*, white, purple; May to June. *Soil*, ordinary rich. *Position*, sunny moist borders. *Plant*, Oct. to Ap. *Propagate* by division of plants in Mar. or Ap.

Gray Ash (*Fraxinus americana cinerea*)—see Fraxinus.

Gray Box-tree of Victoria (*Eucalyptus dealbata*)—see Eucalyptus.

Gray Oak (*Quercus coccinea ambigua*)—see Quercus.

Grayish Bamboo (*Bambusa viridi-glaucescens*)—see Bambusa.

Great American Chick-weed (*Stellaria pubera*)—see Stellaria.

Great American Cowslip (*Dodecatheon Jeffreyanum*)—see Dodecatheon.

Great Angelica (*Angelica atropurpurea*)—see Angelica.

Great Bell-flower (*Campanula grandis*)—see Campanula.

Great Bulbous Iris (*Iris xiphioides*)—see Iris.

Great Californian Silver Fir (*Picea grandis*)—see Picea.

Great Christmas Rose (*Helleborus niger maximus*)—see Helleborus.

Great Fringed Orchis (*Habenaria fimbriata*)—see Habenaria.

Great Laurel-leaved Magnolia (*Magnolia grandiflora*) — see Magnolia.

Great Ox-eye (*Pyrethrum uliginosum*)—see Pyrethrum.

Great Pendulous Sedge (*Carex pendula*)—see Carex.

Great Rattan Cane (*Calamus rudentum*)—see Calamus.

Great Reed (*Arundo donax*)—see Arundo.

Great Savoy Spider-wort (*Anthericum liliastrum*)—see Anthericum

Great Scarlet Poppy (*Papaver bracteatum*)—see Papaver.

Great Sea Lavender (*Statice latifolia*)—see Statice.

Great Spotted Iris (*Iris susiana*)—see Iris.

Great Water-cress (*Nasturtium amphibium*)—see Nasturtium.

Great Yellow Foxglove (*Digitalis ambigua*)—see Digitalis

Great-leaved Cineraria (*Cineraria macrophylla*)—see Cineraria.

Greater Wych Elm (*Ulmus montana major*)—see Ulmus.

Greek Valerian (*Polemonium cœruleum*)—see Polemonium.

Green Alder (*Alnus viridis*)—see Alnus.

Green Ash (*Fraxinus viridis*)—see Fraxinus.

Green Briar (*Smilax rotundifolia*)—see Smilax.

Green Dragons (*Arum dracontium*)—see Arum.

Green Ebony-tree (*Bignonia leucoxylon* & *Jacaranda ovalifolia*)—see Bignonia & Jacaranda.

Green Hellebore (*Helleborus viridis*)—see Helleborus.

Green Man Orchis (*Aceras anthropophora*)—see Aceras.

Green Spleen-wort (*Asplenium viride*)—see Asplenium.

Green Weed (*Genista tinctora*)—see Genista.

Green Windsor Bean (*Faba vulgaris chlorosperma*)—see Faba.

Green-flowered Christmas Rose (*Helleborus abchasicus*) — see Helleborus.

Green-flowered Daffodil (*Narcissus viridiflorus*)—see Narcissus.

Green-winged Orchis (*Orchis morio*)—see Orchis.

Greenish-flowered Snowdrop (*Galanthus virescens*)—see Galanthus.

Greig's Tulip (*Tulipa Greigi*)—see Tulipa.

Grevillea (Silk-bark Oak). — *Ord.* Proteaceæ. Greenhouse hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* New Caledonia. *Int.* 1790. *Ht.* 3 to 6 ft. *Species* cultivated, 6 greenhouse, 2 hardy. *Flowers*, yellow, red, crimson, orange; Feb. to Sept. *Culture of greenhouse species: Compost*, equal parts fibrous peat & turfy loam, one part silver sand. *Position*, well drained pots in airy greenhouse, window, or dwelling-room. *Pot*, Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Prune* off points of shoots occasionally to induce bushy growth. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Culture of hardy species: Soil*, peaty. *Position*, sheltered shrubberies S. of England; against south walls other parts. *Plant*, Oct. or Ap. *Prune*, Ap. *Protect* in severe weather. *Propagate* greenhouse species by seeds sown ¼ in. deep in well drained pots of light soil in temp. 65° to 70° in Mar.; cuttings of young shoots 3 in. long, with small portions of branches attached, inserted in sandy soil in well drained pots under bell-glass in temp. 75° to 80° in Mar., Ap. or May; hardy species by seeds sown ¼ in. deep outdoors in Mar. or Ap.; layers in Oct. or Nov.; grafting in Mar. or Ap.

Grey Pine-tree (*Pinus Banksiana*)—see Pinus.

Grey Poplar (*Populus alba canescens*)—see Populus.

Grey Tree Fern (*Cyathea medullaris*)—see Cyathea.

Griffinia (Blue Amaryllis).—*Ord.* Amaryllidaceæ. Stove bulbous flowering plants. Evergreen. *Nat.* Brazil. *Int.* 1815. *Ht.* 6 to 12 in. *Species* cultivated, 3; varieties, 2. *Flowers*, white, carmine, lilac, blue; Oct. to Mar. *Compost*, two parts fibrous loam, one part peat, decomposed sheep manure & sand. *Position*, well drained pots on a bed or stage heated beneath to temp, 85° in plant stove. *Pot*, June or July. *Press* compost down firmly. *Repotting* not needful oftener than once every three or four years. *Water* moderately Oct. to Ap., freely afterwards. *Syringe* freely in sum. *Topdress* established plants annually in Mar. with rich compost. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Dec. 55° to 65°; Dec. to Mar. 65° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in temp. 85° in Feb. or Mar.; offsets removed from old bulbs and placed singly in 3-in. pots at potting time.

Grim-the-Collier (*Hieracium aurantiacum*)—see Hieracium.

Griselinia (New Zealand Broad-leaf).—*Ord.* Cornaceæ. Hardy evergreen shrubs. Orn. foliage. *Nat.* New Zealand. *Int.* 1872. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Leaves*, egg-shaped; dark green. *Soil*, rich loam. *Position*, shady, sheltered borders. *Plant*, Oct., Nov., Mar. or Ap. *Prune* into shape, Ap. *Propagate* by cuttings inserted in sandy soil in sheltered border or cold frame Sept., Oct. or Nov.; layering shoots in Oct. or Nov.

Gromwell Reed (*Coix lachryma*)—see Coix.

Ground Honeysuckle (*Lotus corniculatus*)—see Lotus.

Ground Ivy (*Glechoma hederacea*)—see Glechoma.

Ground Lily (*Trillium latifolium*)—see Trillium.

Ground Squirrel Pea (*Jeffersonia diphylla*)—see Jeffersonia.

Guelder Rose (*Viburnum opulus*)—see Viburnum.

Guernsey Lily (*Nerine sarniensis*)—see Nerine.

Guernsey Orchis (*Orchis laxiflora*)—see Orchis.

Guilielma (Peach Palm).—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Amazon. *Int.*, date unknown. *Ht.* 20 to 50 ft. *Species* cultivated, 1. *Leaves*, feather-shaped. *Compost*, equal parts loam, leaf-mould & sand. *Position*, shady & moist in sum. *Pot*, Feb. or Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 75°; Mar. to Sept. 70° to 80°. *Propagate* by removing young plants from base of old ones in Mar. & placing in small pots in temp. 70° to 80°.

Guinea Hen-flower (*Fritillaria meleagris*)—see Fritillaria.

Guinea Pepper (*Capsicum annuum*)—see Capsicum.

Guinea Wheat (*Zea mays*)—see Zea.

Gule (*Chrysanthemum segetum*)—see Chrysanthemum.

Gum Box (*Escallonia macrantha*)—see Escallonia.

Gum Thistle (*Euphorbia officinarum*)—see Euphorbia.

Gunnera.—*Ord.* Haloragaceæ. Hardy herbaceous perennials. Orn. foliage. *Nat.* Brazil, Chili. *Int.* 1849. *Ht.* 4 to 6 ft. *Species* cultivated, 2. *Leaves*, large, 4 to 6 ft. in diameter; dark green. *Soil*, ordinary rich. *Position*, damp, sunny sheltered margins of ponds or bogs. *Plant*, Mar. or Ap. *Protect* with leaves in winter. *Water* abundantly in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pans of light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June; division of plants in Mar. or Ap.

Gustavia.—*Ord.* Barringtoniaceæ. Stove evergreen flowering shrubs. *Nat.* New Grenada, Columbia, French Guiana. *Int.* 1845. *Ht.* 3 to 6 ft. *Flowers*, rose, yellow, white; June to Sept. *Compost*, two parts loam, one part peat & leaf-mould, with little sand. *Position*, well drained pots in warmest part of stove. *Pot*, Mar. *Prune*, Feb. or Mar. *Water* moderately Sept. to Feb., freely other times. *Syringe* daily Mar. to Sept. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in sand in well drained pots under bell-glass in temp. 70° to 85°, Ap. to Aug.

Guzmannia.—*Ord.* Bromeliaceæ. Stove herbaceous perennials. Flowering & orn. foliage. *Nat.* Trop. America. *Int.* 1820. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white; May to Sept. *Bracts*, yellow, green, purple, scarlet. *Leaves*, sword-shaped; bright green. *Compost*, equal parts fibrous loam, rough peat & leaf-mould. *Pot*, Mar. *Water* freely always. *Good* drainage essential. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Gymnadenia (Aromatic Orchis, Sweet-scented Orchis, Gnat Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchid. *Nat.* Britain. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, purple, fragrant; June to July. *Soil*, sandy loam. *Position*, open sunny turf, or borders. *Plant*, Mar., placing tubers 2 to 3 in. deep. *Propagate* by division of tubers in Mar.

Gymnocladus (Kentucky Coffee-tree).—*Ord.* Leguminosæ. Hardy deciduous tree. Orn. foliage & flowering. *Nat.* N. America. *Int.* 1748. *Ht.* 10 to 60 ft. *Species* cultivated, 1. *Flowers*, white; May to July. *Leaves*, feather-shaped, bluish green, 3 ft. long & 2 ft. wide. *Soil*, ordinary, well drained. *Position*, shady shrubberies or lawns. *Plant*, Oct. to Feb. *Prune* young trees, Jan. *Propagate* by seeds sown 1 in. deep in light soil in shady position outdoors in Oct., Nov., Ap. or Mar.; cuttings of roots inserted 2 in. deep in similar position in Oct. or Mar.

Gymnogramma (Gold Fern, Silver Fern, Sulphur Fern, Rue Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Trop. America. W. Indies, Venezuela, Jamaica, California, N. America, India. *Int.* 1790. *Ht.* 4 to 30 in. *Species* cultivated, 13 stove, 5 greenhouse; varieties many. *Fronds* finely divided, upper sides green, under sides covered with white or yellow powder. *Compost*, one part fibrous peat, one part leaf-mould & loam, one part silver sand, charcoal, & coarsely ground bones. *Position*, erect species in well drained pots; drooping species in hanging baskets. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Syringing* or shading not necessary. *Temp.*, stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; division of plants at potting time; fronds furnished with plantlets pegged on to surface of sandy peat under bell-glass in temp. 70° to 80° at all times.

Gymnopteris.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Ceylon, Trop. America. *Int.*, date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Fronds* feather-shaped & oak leaf-shaped. *Compost*, equal parts peat, loam, leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely spring & sum., moderately other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 70° to 80° any time; division of roots at potting time.

Gynerium (Pampas Grass)—*Ord.* Graminaceæ. Hardy herbaceous perennial grass. Flowering & orn. foliage. *Nat.* S. America. *Int.* 1843. *Ht.* 6 to 10 ft. *Species* cultivated, 1; varieties, 2. *Inflorescence* (male & female borne on different plants), white, purple, yellow; Sept. to Nov. *Soil*, rich, light, sandy. *Position*, sheltered shrubberies or lawns. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Gather* plumes for winter decoration directly fully developed. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in well drained pots or pans under bell-glass in temp. 55° to 65° in Feb., Mar. or Ap. *Transplant* seedlings outdoors in Aug. or Sept. *Female* plumes best & most durable for winter decoration.

Gypsophila (Chalk-plant).—*Ord.* Caryophyllaceæ. Hardy perennial & annual herbs. *Nat.* Europe, Caucasus, Himalayas. *Int.* 1759. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3 perennials, 2 annuals. *Flowers*, white, rose, pink; May to Sept.; very useful for cutting. *Soil*, ordinary; freely mixed with old mortar or brick rubbish. *Position*, dryish well drained borders for erect species; sunny rockeries & margins of borders for dwarf species. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* annual species by seeds sown in Ap. on surface of soil where plants are to flower, thinning seedlings out 3 to 6 in. apart when 1 in. high; perennial species by seeds sown in sunny position outdoors in Ap., transplanting seedlings to permanent position in June, July or Aug.; division of plants in Oct. or Ap.

Habenaria (Frog Orchis, Butterfly Orchis, Fringed Orchis, Rein Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Britain, N. America. *Int.* (foreign species) 1796. *Ht.* 1 to 3 ft. *Species* cultivated, 10. *Flowers*, white, yellow, lilac, purple, rose, crimson, fragrant; June to Sept. *Compost*, equal parts leaf-mould, peat & sand. *Position*, moist, partially shaded borders. *Plant*, Oct. or Ap. *Mulch* surface of bed in June with leaf-mould, cocoanut-fibre refuse, or short grass. *Water* freely in sum. in dryish positions. *Replanting* necessary only when plants show signs of deterioration. *Propagate* by division of tuberous roots in Ap.

Haberlea.—*Ord.* Gesneraceæ. Hardy herbaceous perennial. *Nat.* Roumelia. *Int.* 1880. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, lilac, yellow; Ap. to June. *Soil*, fibrous sandy peat. *Position*, moist fissures of rockery in shade. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots or pans of sandy peat in cold frame in Mar. or Ap.; by division of plants in Mar. or Ap.

Hablitzia.—*Ord.* Chenopodiaceæ. Hardy herbaceous climber. *Nat.* Caucasus. *Int.* 1828. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish yellow; July to Oct. *Soil*, ordinary. *Position*, base of naked trunks of trees, south or west trellises, arbors, walls, or fences. *Plant*, Oct. or Mar. *Cut* down stems to the ground in Oct. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sunny place outdoors in Mar. or Ap., or similar depth in boxes of light soil in greenhouse or cold frame in Mar., transplanting seedlings outdoors in May or June; by division of roots Oct. or Ap.

Habranthus. — *Ord.* Amaryllidaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* Chili. *Int.* 1821. *Ht.* 12 in. *Species* cultivated, 4; variety, 1. *Flowers*, yellow, red, scarlet; May to July. *Outdoor culture: Soil*, light sandy loam. *Position*, well drained sunny beds, borders, or rockeries. *Plant*, Aug. to Nov., placing bulbs 3 to 4 in. deep & 4 in. apart. *Protect* in winter by covering of cinder ashes. *Lift* & replant only when bulbs show signs of deterioration. *Pot culture: Compost*, two parts loam, one part peat, leaf-mould & silver sand. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing one bulb 2 in. deep in a 5 or 6-in. pot. *Water* very little till growth begins, then freely. *Withhold* water when flowers fade & keep soil quite dry till potting time. *Propagate* by offsets planted & treated as advised for large bulbs, Aug. to Nov.

Habrothamnus.—*Ord.* Solanaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Mexico. *Int.* 1843. *Ht.* 5 to 10 ft. *Species* cultivated, 3; variety, 1; variegated. *Flowers*, purplish red, crimson; all the year round. *Berries*, bright rosy-red; borne only when flowers are fertilized. *Soil*, ordinary. *Position*, pots or beds, with shoots trained on wall, pillars, or roof of greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 60°. *Water* moderately in winter, freely other times. *Propagate* by cuttings of side shoots 3 or 4 in. long, removed with portion of old stem attached, inserted in well drained pots of sandy soil in temp. 65° to 75° in July, Aug. or Sept.

Hack-berry (*Cerasus padus*)—see Cerasus.

Hæmanthus (Blood-flower, Blood Lily, Red Cape Tulip).—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous plants. Deciduous. *Nat.* S. & Trop. Africa. *Int.* 1722. *Ht.* 6 to 12 in. *Species* cultivated, 7 greenhouse, 4 stove. *Flowers*, scarlet, red, white, orange, crimson; Feb. to Dec. *Compost*, two parts sandy loam, one part peat, well decayed manure & sand. *Position*, well drained pots exposed to full sun in stove or greenhouse whilst growing; under staging whilst at rest. *Pot* early-flowering species Aug. to Nov.; late-flowering species, Mar. or Ap. *Place* bulbs half their depth in compost. *Water* very little till growth begins, then moderately; gradually withhold it when flowers fade, & keep soil quite dry from time foliage turns yellow till repotting time. *Apply* weak liquid manure once or twice weekly to plants in flower. *Temp.*, greenhouse species, Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65°; Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75° for stove species. *Bulbs* flower best when only repotted every three or four years. *Propagate* by offsets removed at potting time & placed in small pots in similar soil as for old bulbs.

Hag-berry (*Cerasus padus*)—see Cerasus.

Hag-taper (*Verbascum Thapsus*)—see Verbascum.

Hair-bell (*Campanula rotundifolia & Scilla nutans*)—see Campanula & Scilla.

Hair-tipped House-leek (*Sempervivum heterotrichum*)—see Sempervivum.

Hair's-tail Grass (*Lagurus ovatus*)—see Lagurus.

Hairy Broom (*Genista pilosa*)—see Genista.

Hairy Cone-flower (*Rudbeckia hirta*)—see Rudbeckia.

Hairy Dwarf Birch (*Betula pumila*)—see Betula.

Hairy Honeysuckle (*Lonicera hirsuta*)—see Lonicera.

Hairy House-leek (*Sempervivum hirtum*)—see Sempervivum.

Hairy-lip Fern (*Cheilanthes vestita*)—see Cheilanthes.

Hairy Nightshade (*Solanum hirsutum*)—see Solanum.

Hairy Phlox (*Phlox pilosa*)—see Phlox.

Hairy Pitcher-plant (*Nepenthes villosa*) – see Nepenthes.

Hairy Privet (*Ligustrum villosum*)—see Ligustrum.

Hairy Rock Rose (*Cistus hirsutus*)—see Cistus.

Hairy St. John's-wort (*Hypericum hirsutum*)—see Hypericum.

Hairy Saxifrage (*Saxifraga hirsuta*)—see Saxifraga.

Hairy Sedum (*Sedum villosum*)—see Sedum.

Hairy Sun Rose (*Helianthemum hirsutum*)—see Helianthemum.

Hairy Toad-flax (*Linaria pilosa*)—see Linaria.

Hairy-flowered Sun Rose (*Helianthemum lasianthum*)—see Helianthemum.

Hairy-leaved Mock-Orange (*Philadelphus hirsutus*)—see Philadelphus.

Hairy-leaved Primrose (*Primula hirsuta*)—see Primula.

Hairy-leaved Rhododendron (*Rhododendron hirsutum*) – see Rhododendron.

Hairy-leaved Whitlow-grass (*Draba aizoides*)—see Draba.

Hairy-podded Whitlow-grass (*Draba aizoon & D. lasiocarpa*)—see Draba.

Hairy-stemmed Poppy (*Papaver pilosum*) – see Papaver.

Hairy-styled Lime-tree (*Tilia europæa dasystyla*)—see Tilia.

Hairy-tufted House-leek (*Sempervivum piliferum*)—see Sempervivum.

Hakea.—*Ord.* Proteaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1790. *Ht.* 2 to 16 ft. *Species* cultivated, 5. *Flowers*, red, white, yellow; Ap. to July. *Compost*, two parts peat, one part loam, one part sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. or Ap.; firm potting with good drainage essential. *Prune* into shape after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 45° to 50°. *Place* plants outdoors July to Sept. to mature growth. *Propagate* by cuttings of firm shoots 1 to 2 in. long inserted in sandy peat under bell-glass in temp. 50° to 55°, Ap. to Aug.

Hale-nut (*Corylus Avellana*)—see Corylus.

Halesia (Silver-bell, Snowdrop-tree). — *Ord.* Styracaceæ. Hardy flowering trees. Deciduous. *Nat.* N. America, Japan. *Int.* 1756. *Ht.* 12 to 20 ft. *Species* cultivated, 2. *Flowers*, white; Ap. to June. *Soil*, deep sandy loam. *Position*, sheltered borders, shrubberies, or lawns. *Plant*, Oct. to Feb. *Prune* into shape, Nov. *Propagate* by cuttings of roots inserted in sandy soil outdoors in Mar. or Oct.; by layering shoots in Oct. or Nov.

Halimodendron (Salt-tree).—*Ord.* Leguminosæ. Hardy flowering & orn. foliage shrub. Deciduous. *Nat.* Asiatic Russia. *Int.* 1779. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, purple; May to July. *Leaves*, feather-shaped, whitish & downy. *Soil*, deep sandy. *Position*, shrubberies & open borders. *Plant*, Oct. to Feb. *Prune* into shape, Nov. *Propagate* by seeds sewn ⅛ in. deep in sandy soil outdoors in Mar. or Ap.; cuttings of firm shoots 4 to 6 in. long inserted in sandy soil outdoors in Oct. & Nov.; layering in Oct., & by grafting on common laburnum in Mar. to form standards.

Halleria (African Fly Honeysuckle).—*Ord.* Scrophulariaceæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1752. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, red; Ap. to June. *Compost*, equal parts sandy loam & leaf-mould, & little sand. *Position*, pots in light airy greenhouse. *Pot*, Mar. or Ap. *Prune* moderately after flowering. *Water* freely Mar. to Sept., moderately other times. *Place* plants outdoors July to Sept. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by cuttings of young or partially ripened shoots inserted in sandy peat under bell-glass in temp. 50° to 60°, Ap. to Aug.; layering shoots in autn.

Halle's Magnolia (*Magnolia Halleana*)—see Magnolia.

Hamburgh Parsley (*Petroselinum sativum*)—see Petroselinum.

Hamamelis (American Witch Hazel, Snapping Hazel-nut, Spotted Alder, Winter-bloom).—*Ord.* Hamamelidaceæ. Hardy flowering shrubs. Deciduous. *Nat.* Japan, N. America. *Int.* 1736. *Ht.* 6 to 15 ft. *Species* cultivated, 3. *Flowers*, yellow, purplish crimson; Oct. to Feb. *Soil*, deep rich loam. *Position*, damp borders or shrubberies & margins of lakes. *Plant*, Oct. to Feb. *Prune* into shape Feb. *Propagate* by layering branches in Oct. or Nov.; grafting rare species on common kind in Mar.

Hand Orchis (*Orchis maculata*)—see Orchis.

Handsome Side-saddle-flower (*Sarracenia formosa*)—see Sarracenia.

Hard Fern (*Blechnum boreale*)—see Blechnum.

Hard Grass (*Dactylis glomerata*)—see Dactylis.

Hard Pine-tree (*Pinus australis*)—see Pinus.

Hard-hack (*Spiræa tomentosa*)—see Spiræa.

Hardenbergia (Australian Sarsaparilla-tree, Australian Lilac).—*Ord.* Leguminosæ. Greenhouse flowering twining plants. Evergreen. *Nat.* S. Australia. *Int.* 1790. *Ht.* 4 to 10 ft *Species* cultivated, 2; variety, 1; variegated. *Flowers*, blue, scarlet; Mar. to May. *Compost*, equal parts loam & peat, little silver sand. *Position*, pots, with shoots trained to trellis, or planted out in beds, & shoots trained up rafters. *Pot or plant*, Feb. or May. *Water* freely Mar. to Sept., moderately at other times. *Prune* straggling plants into shape in Feb. *Apply* weak stimulants occasionally to healthy plants in flower. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds sown ⅛ in. deep in well drained pots of light sandy soil in temp. of 55° to 65° in Mar. or Ap.; cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Mar. to July.

Hardy Bamboo (*Bambusa falcata*)—see Bambusa.

Hardy Dwarf Cactus (*Opuntia humilis*)—see Opuntia.

Hardy Flesh-coloured Hydrangea (*Hydrangea Otaksa*)—see Hydrangea.

Hardy Four-leaved Trumpet-flower (*Bignonia capreolata*)—see Bignonia.

Hardy Indian Balsam (*Impatiens glandulifera*)—see Impatiens.

Hardy Large Trumpet-flower (*Tecoma grandiflora*)—see Tecoma.

Hardy Purple-flowered Clematis (*Clematis viticella venosa*)—see Clematis.

Hardy Trumpet-flower (*Bignonia radicans*)—see Bignonia.

Hardy Vervain (*Verbena venosa*)—see Verbena.

Hardy White-flowered Hydrangea (*Hydrangea grandiflora*)-see Hydrangea.

Hardy White Jasmine (*Jasminum grandiflorum*)—see Jasminun

Hare's-beard (*Verbascum Thapsus*)—see Verbascum.

Hare's-foot Fern (*Davallia canariensis*)—see Davallia.

Hare-bell (*Campanula rotundifolia* & *Scilla nutans*)—see Campanula & Scilla.

Hare's-ear (*Bupleurium rotundifolium*)—see Bupleurium.

Hare's-eye (*Lychnis diurna*)—see Lychnis.

Haricot Bean (*Phaseolus vulgaris*)—see Phaseolus.

Harlequin Flower (*Sparaxis grandiflora*)—see Sparaxis.

Harpalium (Prairie Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1821. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, yellow; July to Sept. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* by seeds sown ⅛ in. deep in pots of light sandy soil in temp. of 55° to 60° in Mar., transplanting seedlings outdoors in May, or similar depth in sunny position outdoors in Ap.; division of creeping roots in Oct. or Mar.

Hart Berries (*Vaccinium myrtillus*)—see Vaccinium.

Hart's-tongue Fern (*Scolopendrium vulgare*)—see Scolopendrium.

Hartford Fern (*Lygodium palmatum*)—see Lygodium.

Hartweg's Lupin (*Lupinus Hartwegi*)—see Lupinus.

Hask-wort (*Campanula latifolia*)—see Campanula.

Hat's Thorn (*Rhamnus catharticus*)—see Rhamnus.

Hatchet-like St. John's-wort (*Hypericum dolabriforme*) — see Hypericum.

Hausmann's Saxifrage (*Saxifraga Hausmanniana*)—see Saxifraga.

Hautbois (*Fragaria elatior*)—see Frageria.

Hautbois Cherry (*Cerasus caproniana*)—see Cerasus.

Hautbois Strawberry (*Fragaria elatior*)—see Fragaria.

Havannah Tobacco (*Nicotiana repanda*)—see Nicotiana.

Hawk Weed (*Hieracium aurantiacum*)—see Hieracium.

Hawk's-beard (*Crepis aurea*)—see Crepis.

Hawk's-eye (*Hieracium aurantiacum*)—see Hieracium.

Haworthia.—*Ord.* Liliaceæ. Greenhouse succulent-leaved plants. Orn. foliage. *Nat.* S. Africa. *Int.* 1720. *Ht.* 2 to 18 in. *Species* cultivated, 42. *Flowers*, greenish. *Leaves*, fleshy, transparent, warty & variegated *Compost*, equal parts light loam, broken bricks, mortar rubbish & river sand *Position*, well drained pots in light greenhouse shaded from sun. *Pot*, Mar. or Ap. *Water* moderately Ap. to Sept., occasionally other times. *Repotting* necessary only when plants show signs of ill-health. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by seeds sown 1/16 in. deep in well drained pots or pans in above compost in temp. 65°, Mar. to Aug.; by suckers placed in small pots & treated as advised for plants.

Haws (*Cratægus oxyacantha*)—see Cratægus.

Hawthorn (*Cratægus oxyacantha*)—see Cratægus.

Hawthorn-leaved Bramble (*Rubus cratægifolius*)—see Rubus.

Hawthorn-scented Pond-weed (*Aponogeton distachyon*) — see Aponogeton.

Hay-scented Fern (*Cheilanthes odora, Dicksonia pilosiuscula, & Lastræa æmula*)—see Cheilanthes, Dicksonia, & Lastræa.

Hazel (*Corylus Avellana*)—see Corylus.

Hazel Nut (*Corylus Avellana*)—see Corylus.

He Broom (*Cytisus laburnum*)—see Cytisus.

He Heather (*Calluna vulgaris*)—see Calluna.

Heart-leaved Alder (*Alnus cordifolia*)—see Alnus.

Heart-leaved Balm (*Cedronella cordata*)—see Cedronella.

Heart-leaved Hydrangea (*Hydrangea cordata*)—see Hydrangea.

Heart-leaved Lily (*Lilium cordifolium*)—see Lilium.

Heart-leaved Ox-eye (*Buphthalmum speciosum*)—see Buphthalmum.

Heart-leaved Rock-rose (*Cistus Cupanianus*)—see Cistus.

Heart-leaved Saxifrage (*Saxifraga cordifolia & Megasea cordifolia*)—see Saxifraga & Megasea.

Heart-leaved Snapdragon (*Antirrhinum Asarina*)—see Antirrhinum.

Heart-leaved St. John's-wort (*Hypericum cordifolium*)—see Hypericum.

Heart-leaved Starwort (*Aster cordifolius*)—see Aster.

Heart-leaved Virginian Creeper (*Ampelopsis cordata*)—see Ampelopsis.

Heart's-ease (*Viola tricolor*)—see Viola.

Heath (*Erica cinera & Calluna vulgaris*)—see Erica & Calluna.

Heath Cypress (*Lycopodium alpinum*)—see Lycopodium.

Heath Fern (*Lastræa oreopteris*)—see Lastræa.

Heath Pea (*Lathyrus macrorrhizus*)—see Lathyrus.

Heath-leaved Starwort (*Aster ericoides*)—see Aster.

Heath-leaved St. John's-wort (*Hypericum coris*)—see Hypericum

Heath-like Lavender-Cotton (*Santolina ericoides*)—see Santolina

Heath-like Sun-rose (*Helianthemum Fumana*)—see Helianthemum.

Heather (*Erica cinera & Calluna vulgaris*)—see Erica & Calluna.

Heavy-scented Primrose (*Primula graveolens*)—see Primula.

Heavy-spiked Loose-strife (*Lysimachia barystachya*)—see Lysimachia.

Heavy-wooded Pine-tree (*Pinus ponderosa*)—see Pinus.

Hedera (Ivy, Barren Ivy, Bent-wood, Bind-wood, Tree Ivy, Golden Tree Ivy, Silver Tree Ivy, Gold-blotched Ivy, Three-coloured Ivy, Yellow berried Roman Ivy, Marbled-leaf Ivy, Clustered Ivy, Irish Ivy, Poet's Ivy, Giant Ivy, Variegated Japan Ivy, Crimean Ivy, Variegated Ivy).—*Ord.* Araliaceæ. Hardy evergreen climbing shrubs. Orn. foliage. *Nat.* Europe (Britain), N. Africa, Central Asia, Canary Islands. *Ht.* 6 to 40 ft. *Species* cultivated, 2; varieties about 40. *Flowers*, green; Oct. to Nov. *Leaves*, green, purplish, or variegated with yellow & white. *Berries*, purplish black, reddish orange, golden; winter. *Soil*, ordinary rich. *Position*, green-leaved kinds against walls of all aspects, railings, tree stumps, arbours, trellises, on banks & under shade of trees; variegated kinds against south or west walls or fences. *Plant*, Sept., Oct., Nov., Feb., Mar. or Ap. *Peg* shoots to surface of soil when first planted in any position. *Prune* Ap., cutting off old leaves & straggling shoots. *Water* freely in dry weather. *Apply* stimulants if vigorous growth is desired. *Pot culture: Compost*, two parts loam, one part leaf-mould or decayed manure & sand. *Position*, well drained pots in unheated greenhouse, balconies or windows. *Pot*, Oct. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Prune* into shape, Ap. *Apply* stimulants to established plants in sum. only. *Hanging Baskets: Compost*, same as above. *Plant*, Oct. or Mar. *Position*, unheated greenhouses, balconies or windows. *Water* moderately Sept. to Ap., freely afterwards. *Screens in Rooms: Compost* as above. *Position*, boxes, well drained, with shoots trained to wire or wood trellis. *Plant*, Oct. or Mar. *Water* moderately Mar. to Oct. occasionally other times. *Propagate* by cuttings of firm shoots 6 to 8 in. long inserted in ordinary soil at base of north wall or fence, Sept. to Nov., in well drained pots in cold frame in Oct., or in temp. 55° to 65°, Sept. to Nov.; tree & variegated kinds by cleft grafting on common sort in temp. 55° in Feb.

Hedge-bells (*Convolvulus sepium*)—see Convolvulus.

Hedge-berry (*Prunus padus* & *Cerasus avium*)—see Prunus & Cerasus.

Hedge-hog Holly (*Ilex aquifolium ferox*)—see Ilex.

Hedge-hog Juniper (*Juniperus echiniformis*)—see Juniperus.

Hedge-hog Thistle (*Cactus echinocactus*)—see Cactus.

Hedge Hyssop (*Gratiola officinalis*)—see Gratiola.

Hedge Lily (*Convolvulus sepium*)—see Convolvulus.

Hedge-maids (*Glechoma hederacea*)—see Glechoma.

Hedge Pink (*Saponaria officinalis*)—see Saponaria.

Hedge-taper (*Verbascum Thapsus*)—see Verbascum.

Hedge Vine (*Clematis vitalba*)—see Clematis.

Hedge Violet (*Viola sylvatica*)—see Viola.

Hedychium (Fragrant Garland-flower).—*Ord.* Scitaminaceæ. Stove & greenhouse herbaceous perennials. Flowering. *Nat.* E. Indies. *Int.* 1791. *Ht.* 2 to 6 ft. *Species* cultivated, 4. *Flowers*, scarlet, yellow, fragrant; May to Nov. *Compost*, two parts peat, one of loam & one of sand. *Position*, well drained pots, tubs or boxes, or planted in beds in stove or warm greenhouse. Pot plants may be stood outdoors July to Aug. *Pot*, Mar. or Ap. *Water* freely Ap. to Nov., occasionally other times. *Apply* liquid manure twice a week to plants in flower. *Temp.*, stove species, Mar. to Nov. 60° to 70°, Nov. to Mar. 50° to 55°; greenhouse species, Mar. to Nov. 65° to 75°, Nov. to Mar. 45° to 50°. *Cut* down flower stems immediately after flowering. *H. Gardnerianum* adapted for outdoor culture in sum. *Plant*, May, in rich soil. *Water* freely in dry weather. *Apply* liquid manure when in flower. *Lift* roots in Oct. & store in frost-proof place till planting time. *Propagate* by division of rhizomes (creeping stems) in Mar. or Ap.

Hedysarum (French Honeysuckle, Maltese Clover, Red Satin-flower, Soola Clover).—*Ord.* Leguminosæ. Hardy perennial herbs. *Nat.* S.W. Europe, N. America, Siberia. *Int.* 1596. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4; variety, 1. *Flowers*, red, purple, white; May to Sept. *Soil* ordinary. *Position*, sunny rockeries, banks or slopes for dwarf species; sunny well drained borders for tall species. *Plant*, Oct., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap., transplanting seedlings in June to final position; division of roots, Oct. or Ap.

Hedyscepe (Umbrella Palm).—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Lord Howe's Island. *Int.*, date unknown. *Ht.* 3 to 15 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, green. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in shady plant stove. *Pot*, Feb., Mar. or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Syringe* twice daily Mar. to Sept. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in light soil, in temp. 70° to 80°, in Feb. or Mar.

Helen-flower (*Helenium autumnale*)—see Helenium.

Helenium (Helen-flower, Sneeze-wort, Sneeze-weed). — *Ord.* Compositæ. Hardy herbaceous perennials. Flowering. *Nat.* N. America, United States. *Int.* 1729. *Ht.* 2 to 6 ft. *Species* cultivated, 2; varieties, about 3. *Flowers*, yellow, orange; July to Nov. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Flowers* exceedingly useful for cutting. *Propagate* by seeds sown

⅛ in. deep outdoors in Ap., transplanting seedlings in June or July; division of roots in Oct. or Mar.

Heliamphora (South American Pitcher-plant).—*Ord.* Sarraceniaceæ. Greenhouse herbaceous perennial. Orn. foliage. *Nat.* Rotaima. *Int.* 1823. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, rose; spring. *Leaves*, tubular, pitcher-like. *Compost*, equal parts peat & living sphagnum moss. *Position*, well drained pots or pans under bell-glass, or in cool shady part of greenhouse. *Pot*, Mar. or Ap. *Water* abundantly Ap. to Sept., moderately other times. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by division of plants in Mar. or Ap.

Helianthemum (Sun Rose, Rock Rose).—*Ord.* Cistineaceæ. Hardy flowering shrubs. Evergreen. *Nat.* Europe (Britain), N. Africa, W. Asia. *Int.* (foreign species) 1780. *Ht.* 3 in. to 4 ft. *Species* cultivated, 3; varieties many. *Flowers*, single & double, yellow, white, rose, red, scarlet; May to Sept. *Leaves* of *H. vulgare aurea*, golden. *Soil*, light sandy. *Position*, sunny banks or rockeries. *Plant*, Oct., Mar. or Ap. *Prune* into shape, Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in bed of light soil outdoors in Ap.; cuttings of shoots, 1 to 2 in. long, inserted in well drained pots of sandy soil in cold frame in Aug. or Sept.; division of plants in Oct. or Ap.

Helianthus (Sunflower, Golden Flower of Peru, Canada Potato, Jerusalem Artichoke).—*Ord.* Compositæ. Hardy annual or perennial herbs; tubers of Jerusalem Artichoke edible. *Nat.* (Sunflowers) N. America, United States, Texas; (Jerusalem Artichoke) Upper Canada. *Int.* (annuals) 1596, (perennials) 1597, (Jerusalem Artichoke) 1617. *Species* cultivated, 2 annuals, 5 perennials; varieties many. *Ht.* 2½ to 8 ft. *Flowers*, double & single, yellow petals, violet centres; June to Oct. *Culture of annual species: Soil*, ordinary. *Position*, sunny borders. *Sow* seeds ¼ in. deep in Ap. where plants are to flower, or in pots in temp. 55° to 65° in Ap., transplanting seedlings outdoors in June. *Apply* stimulants occasionally when flower buds form. *Culture of perennial species: Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Water* in dry weather. *Apply* stimulants occasionally when plants show flower buds. *Lift* & replant every third year. *Culture of Jerusalem Artichoke* (*H. tuberosus*): *Soil*, ordinary rich. *Position*, open or shady. *Plant*, Feb. or Mar., placing tubers 6 in. deep & 12 in. apart in rows 3 ft. asunder. *Earth-up* when stems are 6 in. high. *Lift* tubers in Nov. & store in sand or dry soil in outhouse, or leave in ground & dig as required. *Propagate* annual & perennial species by seeds sown ¼ in. deep in sunny place outdoors in Mar. or Ap.; perennials by division of roots, Oct., Mar. or Ap.; Jerusalem Artichoke, by tubers treated as above.

Helichrysum (Everlasting-flower, Immortelle-flower, Moth-wort, Australian Everlasting, Shrubby Everlasting, God's-flower, Gold-flower, Golden Cassidony, Golden Tufts).—*Ord.* Compositæ. Half-hardy annual, hardy herbaceous perennial, & evergreen shrub. *Nat.* Europe, Australia. *Int.* (annual) 1799, (perennial) 1739, (shrub) 1629. *Ht.* 6 in. to 4 ft. *Species* cultivated, 1 annual, 1 perennial, 1 shrub; varieties many. *Flowers*, single & double, white, scarlet, crimson, yellow, rose; June to Sept.; useful for winter decoration. *Culture of annual species: Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Gather* flowers for winter decoration directly they are fully expanded. *Culture of perennial species: Soil*, rich loam. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Cut* down flower stems in Oct. *Gather* flowers for winter decoration when fully developed. *Culture of shrubby species: Soil*, rich loam. *Position*, sunny well drained borders on summit of rockery. *Plant*, Sept. or Oct. *Protect* in very severe weather. *Propagate* annual species by seeds sown in light soil in Mar., in temp. 55° to 65°, or in open ground end of Ap.; perennial species by cuttings inserted in sandy soil under bell-glass in Mar., in temp. 55°; shrubby species by cuttings inserted in well drained pots of sandy soil, in Sept. or Oct., in cold frame.

Heliconia (False Plantain, Parrot's Plantain).—*Ord.* Scitaminaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Brazil, Guiana, Grenada, Columbia, Jamaica, W. Indies, Sumatra. *Int.* 1786. *Ht.* 1 to 3 ft. *Species* cultivated, 9. *Flowers* insignificant. *Leaves*, green; stem striped with black, green, & yellow. *Compost*, two parts fibrous loam, one part leaf-mould, peat & sand. *Position*, pots in shady part of plant stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately Sept. to Nov., none Nov. to Mar. *Syringe* daily Mar. to Sept. *Temp.*, Feb. to Sept. 65° to 75°; Sept. to Nov. 60° to 70°; Nov. to Feb. 55° to 65°. *Propagate* by division of roots in Feb. or Mar.

Heliophila (Cape Stock, Sun Cress).—*Ord.* Cruciferæ. Hardy annuals. *Nat.* S. Africa. *Int.* 1774. *Ht.* 9 to 18 in. *Species* cultivated, 3. *Flowers*, white, purple, blue, violet; June to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. *Water* in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pans or boxes of light soil in temp. of 55° in Mar., transplanting seedlings outdoors end of May, or similar depth in Ap. where plants are to flower.

Heliopsis (North American Ox-eye).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1714. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Water* in dry weather. *Apply* stimulants occasionally when plants show flower buds. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny place outdoors in Mar. or Ap.; division of plants, Oct., Mar. or Ap.

Heliotrope (*Heliotropium peruvianum*)—see Heliotropium.

Heliotropium (Heliotrope, Cherry Pie, Turnsole).—*Ord.* Boraginaceæ. Greenhouse flowering shrub. *Nat.* Peru. *Int.* 1757. *Ht.* 1 to 6 ft. *Species* cultivated, 1; varieties several. *Flowers*, various shades of blue & white, fragrant; Jan. to Dec. *Compost*, equal parts light loam, leaf-mould & sand. *Position*, pots or beds, with shoots growing loosely or trained to trellis, walls, pillars or rafters in greenhouse; in sunny beds outdoors June to Sept., or in pots in windows. *Pot*, Feb. to May. *Plant* outdoors, June. *Lift* & repot, Sept. *Water* freely Mar. to Oct., moderately afterwards. *Apply* liquid or artificial manure to healthy plants in flower. *Prune* old plants in closely in Feb. *Training:* Nip off points of main, also lateral shoots when 3 in. long to form dwarf plants; points of main shoots when 12 in. long, & side shoots when 3 to 6 in. long, to form pyramids; points of main shoots when 2 ft. long, & of lateral shoots at apex when 3 to 6 in. long—all side shoots to within 4 in. of apex to be removed altogether—to form standards. *Temp.*, Feb. to Oct. 60° to 70°; Oct. to Feb. 50° to 55°. *Pot* plants do best in cold frame or sunny position outdoors July & Aug. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots or pans of light soil in temp. 65° to 75° in Mar.; by cuttings of shoots 2 to 3 in. long inserted in pots of sandy soil under bell-glass, or in propagator in temp. 65° to 75° in Mar., Ap., Aug. or Sept.

Helipterum (Australian Everlasting, Immortelle-flower)—*Ord.* Compositæ. Hardy annual. *Nat.* W. Australia. *Int.* 1863. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, yellow, green; sum. *Soil*, light rich. *Position*, sunny well drained borders. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of light soil, in temp. of 55° in Mar., transplanting seedlings outdoors end of May or early in June.

Hellebore (*Helleborus niger*)—see Helleborus.

Helleborine (*Cephalanthera grandiflora* & *Epipactus latifolia*)—see Cephalanthera & Epipactus.

Helleborus (Hellebore, Christmas Rose, Lenten Rose).—*Ord.* Ranunculaceæ. Hardy perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Asia. *Int.* (foreign species) 1596. *Ht.* 6 to 24 in. *Species* cultivated, 11; varieties several. *Flowers* (Christmas Rose), white, green, Dec. to Feb.; (Lenten Roses) green, purple, rose, red, Jan. to May. *Outdoor culture: Soil*, rich loamy. *Position*, shady well drained east border. *Plant*, Oct., Nov. & Mar., 12 in. apart. *Mulch* with well decayed manure in Ap. *Water* freely in dry weather. *Apply* liquid manure occasionally May to Sept. *Lift* & replant every five or six years. *Protect* with handlights, cloches, or frames, or cover surface of bed with moss when in bloom. *Manure* soil freely prior to planting. *Pot culture: Compost*, two parts fibry loam, one part decayed manure. *Position*, cold frame, or greenhouse heated to temp. 40° to 50°. *Pot*, Oct. *Lift* fresh plants annually for pot culture, replanting old ones outdoors in Ap. or May. *Water* moderately. *Size* of pot for single plants, 6 to 8 in. *Propagate* by seeds sown ⅛ in. deep in shallow boxes of sandy soil in cold frame Oct. or Mar., transplanting seedlings outdoors when a year old; by division of roots in July.

Helmet Flower (*Aconitum napellus* & *Scutellaria alpina*)—see Aconitum & Scutellaria.

Helmet Orchid (*Coryanthes maculata*)—see Coryanthes.

Helonias (Stud-flower).—*Ord.* Liliaceæ. Hardy herbaceons perennial. *Nat.* N. America. *Int.* 1758. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, purple, rose; June to Sept. *Soil*, sandy loam & peat. *Position*, moist, shady borders or margins of lakes or ponds. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in a well drained pan of sandy peat in cold shady frame in Mar. or Ap.; division of roots, Oct. or Mar.

Hemerocallis (Day Lliy, Dumortier's Lily, Variegated Day Lily, Two-ranked Day Lily, Tawny Day Lily, Grass-leaved Day Lily, Yellow Day Lily, Dark Day Lily).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* S. Europe, N. China, Japan, Siberia. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 5; varieties several, 1 variegated. *Flowers*, single & double, orange, yellow, mostly fragrant; June to Sept. *Soil*, ordinary deep rich. *Position*, moist borders, open or slightly shady. *Plant*, Oct., Nov., Mar. or Ap.; singly or in groups. *Lift* & replant only when they become unhealthy. *Mulch* established clumps with decayed manure in Ap. or May. *Propagate* by division of roots, Oct., Nov. or Mar.

Hemionites (Mule Fern).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* India, W. Indies, Jamaica. *Int.* 1793. *Ht.* 9 to 12 in. *Species* cultivated, 3. *Fronds*, heart, hand, & feather-shaped. *Compost*, two parts peat & one of sand. *Position*, small well drained pots in shade. *Pot*, Feb. or Mar. *Water* moderately Mar. to Sept., occasionally other times. *Syringing* not required. *Temp.*, Mar. to Sept. 60° to 70°; Sept. to Mar. 55° to 60°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 65° to 75° at any time.

Hemitelia (Smith's Tree Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* Brazil, Venezuela, W. Indies, S. Africa, New Zealand. *Int.* 1824. *Ht.* 6 to 14 ft. *Species* cultivated, 3 stove, 2 greenhouse. *Fronds*, feather-shaped, 1 to 10 ft. long. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots or tubs in shade. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75° for stove species; Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65° for greenhouse species. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans under bell-glass in moist, shady position in temp. 75° to 85°.

Hemlock Spruce Fir (*Abies canadensis*)—see Abies.

Hemp Palm (*Chamærops excelsa*)—see Chamærops.

Hemp-seed Oil-plant (*Cannabis sativa*)—see Cannabis.

Hen-and-Chickens Daisy (*Bellis perennis prolifera*)—see Bellis.

Hen-and-Chickens House-leek (*Sempervivum globiferum*) — see Sempervivum.

Henderson's Bell-flower (*Campanula Hendersoni*)—see Campanula.

Henna Plant (*Lawsonia alba*)—see Lawsonia.

Henry's Primrose (*Primula Henryi*)—see Primula.

Hepatica (Golden Trefoil, Noble Liverwort, Round-lobed Liver leaf, Large Blue Hepatica, Sharp-lobed Hepatica).—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. *Nat.* Europe, N. America. *Int.* 1573. *Ht.* 3 to 12 in. *Species* cultivated, 2; varieties numerous. *Flowers*, single & double, white, blue, pink; Feb. to May. *Soil*, light, rich, well drained. *Position*, partially shaded & sheltered borders, rockeries, or beds. *Plant*, Oct. & Nov. *Lift* & replant every six or seven years only. *Do* not disturb soil near roots. *Mulch* with decayed manure in autn. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in shallow boxes of light sandy loam in July or Aug. Cover soil with roofing slates & place in shady cold frame till Nov., then remove slates and place in temp. 55°, or leave in frame till spring, when stand in shady position outdoors & keep moist. Transplant seedlings in flowering position the following Oct. Increased also by division of roots in Oct. or Nov. The *Hepatica* is strictly a species of *Anemone*.

Hepatica-leaved Toad-flax (*Linaria hepaticæfolia*)—see Linaria.

Hep-briar (*Rosa canina*)—see Rosa.

Hep-rose (*Rosa canina*)—see Rosa.

Hep-tree (*Rosa canina*)—see Rosa.

Heps (*Rosa canina*)—see Rosa.

Heracleum (Giant Cow Parsnip).—*Ord.* Umbelliferæ. Hardy perennial herbs. Orn. foliage. *Nat.* S. Europe, Asia, Caucasus. *Int.* 1789. *Ht.* 4 to 12 ft. *Species* cultivated, 3. *Flowers*, white, yellow; June to Aug. *Leaves*, large, feather-shaped, green. *Soil*, ordinary. *Position*, open or sheltered shrubberies, borders, margins of ponds, lakes. etc. *Plant*, Oct. or Nov. *Remove* flower stems immediately they appear early in June if fine, healthy foliage is desired. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary soil outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Herb-Bennet (*Geum urbanum* & *Valeriana officinalis*)—see Geum & Valeriana.

Herb-Carpenter (*Prunella vulgaris*)—see Prunella.

Herb-Christopher (*Actæa spicata* & *Osmunda regalis*)—see Actæa & Osmunda.

Herb-Frankincense (*Laserpitium latifolium*)—see Laserpitium.

Herb-Trinity (*Viola tricolor* & *Hepatica triloba*)—see Viola & Hepatica.

Herb-Lily (*Alströmeria aurea*)—see Alströmeria.

Herb-Louisa (*Aloysia citriodora*)—see Aloysia.

Herb-Paris (*Paris quadrifolia*)—see Paris.

Herb-Peter (*Primula veris*)—see Primula.

Herb-Twopence (*Lysimachia nummularia*)—see Lysimachia.

Herbaceous Periwinkle (*Vinca herbacea*)—see Vinca.

Herbert's Hybrid Rhododendron (*Rhododendron hybridum*)—see Rhododendron.

Herb-of-Grace (*Ruta graveolens*)—see Ruta.

Herb-of-Repentance (*Ruta graveolens*)—see Ruta.

Hercules-club (*Xanthoxylon Clava-Herculis* & *Aralia spinulosa*)—see Xanthoxylon & Aralia.

Herniaria (Rupture-wort, Turk's Herb).—*Ord.* Illicebraceæ. Hardy perennial trailing herb. *Nat.* Europe (Britain), Asia. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, green; June to Aug. *Leaves*, roundish, dense, dark green. *Soil*, ordinary. *Position*, sunny or shady rockeries, as edgings to carpet beds or borders. *Plant*, Oct., Nov., Mar. to June. *Propagate* by seeds sown 1/16 in. deep in light sandy soil outdoors, Mar. or Ap.; division of plants, Oct., Nov., Mar., Ap. or May.

Heron's-bill (*Erodium petræum*)—see Erodium.

Herring-bone Fern (*Blechnum spicant*)—see Blechnum.

Hertfordshire Elm (*Ulmus suberosa latifolia* & *U. s. angustifolia*)—see Ulmus.

Hesperis (Sweet Rocket, Dame's Violet, Damask Violet, Dame's Rocket, Common Rocket, Queen's Gilliflower, Winter Gilliflower, Double Rocket, Melancholy Gentleman, Night-scented Rocket, Night-scented Stock).—*Ord.* Cruciferæ. Hardy biennial & perennial herbs. *Nat.* S. & W. Europe, Russian Asia. *Int.* 1597. *Ht.* 1 to 3 ft. *Species* cultivated, 1 perennial, 1 biennial; varieties several. *Flowers*, single & double, white, purple, flesh, red, fragrant; May to Sept. *Culture of perennial species* (*H. matronalis*): *Soil*, ordinary rich moist. *Position*, sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure in May. *Apply* liquid manure occasionally in sum. to double varieties. *Cut* down flower stems in Oct. *Lift* & replant double kinds every second year. *Propagate* single kinds by seeds sown ¼ in. deep in sunny position outdoors in Ap., transplanting seedlings in June or July; double kinds by cuttings of young shoots 3 in. long inserted in sandy soil in shady position outdoors, July to Sept., or under handlight or in cold frame, Sept. or Oct., transplanting in Mar.; also by division of roots, Oct. or Mar. *Culture of biennial species* (*H. tristis*): *Soil*, ordinary light. *Position*, well drained sunny borders or in chinks or crevices of old walls. *Sow* seeds 1/16 in. deep in patches in borders where plants are required to grow, June to Sept.; in chinks or crevices of walls, Ap. to July.

Herring-bone Thistle (*Chamæpeuce casabonæ*)—see Chamæpeuce.

Hesperantha (Evening-flower).—*Ord.* Iridaceæ. Greenhouse bulbous flowering plants. Deciduous. *Nat.* S. Africa. *Int.* 1787. *Ht.* 6 to 12 in. *Species* cultivated, 6. *Flowers*, white, brown, red, fragrant; Ap. to Sept. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure, & little sand. *Position*, well drained pots in cold frame, cool greenhouse or window till growth begins, then remove to temp, 45° to 55°. *Pot*, Nov., placing five bulbs 3 in. deep in a 5 in.-pot. *Cover* pots with cocoanut-fibre refuse or cinder ashes till growth begins. *Water* moderately from time growth commences till flowers fade, then gradually withhold, keeping bulbs quite dry from Sept. to Jan. *Repot* annually. *Propagate* by offsets treated as advised for bulbs.

Hesperoscordon (Missouri Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous flowering plant. Deciduous. *Nat.* California. *Int.* 1833. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety, 1. *Flowers*, white, green, lilac; June to Aug. *Soil*, rich sandy loam. *Position*, warm well drained borders. *Plant* bulbs Sept. & Oct. 4 in. deep & 3 in. apart. *Lift* & replant annually. *Mulch* with decayed cow manure in sum. *Propagate* by seeds sown ⅛ in. deep in sandy soil in Mar.; by offsets treated as advised for bulbs.

Hessea.—*Ord.* Amaryllidaceæ. Greenhouse bulbous flowering plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1774. *Ht.* 3 to 9 in. *Species* cultivated, 4. *Flowers*, white, yellow, pink; Ap., Aug., Oct., Nov. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure, & little sand. *Position*, well drained pots in cold frame, cool greenhouse, or window till growth begins, then remove to temp. 45° to 55°. *Pot*, Nov., placing five bulbs 3 in. deep in a 5-in. pot. *Cover* pots with cocoanut-fibre refuse or cinder ashes till growth begins. *Water* moderately from time growth commences till flowers fade, then gradually withhold, keeping bulbs quite dry from Sept. to Jan. *Repot* annually. *Propagate* by offsets treated as bulbs.

Heteranthera (Mud Plantain).—*Ord.* Pontederaceæ. Hardy aquatic perennial herb. Flowering & orn. foliage. *Nat.* N. America. *Int.*, date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, violet, blue; May to

Aug. *Soil*, boggy. *Position*, margins of ponds or rivulets. *Plant*, Oct., Ap. or Mar. *Propagate* by division of plants, Oct. or Mar.

Heterotrichum.—South American plants of no special garden value.

Heuchera (Alum-root, American Sanicle)—*Ord.* Saxifragaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* N. & W. America, Virginia, Carolina, Mexico. *Int.* 1656. *Species* cultivated, 8. *Flowers*, white, purple, red, yellow, violet, green; May to Oct. *Leaves*, heart-shaped, or roundish; deep green, veined with reddish brown. *Soil*, ordinary light rich or peaty. *Position*, open sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots or crowns, Mar. to May.

Heuffel's House-leek (*Sempervivum Heuffeli*)—see Sempervivum.

Hexacentris.—*Ord.* Acanthaceæ. Stove flowering perennial climber. Evergreen. *Nat.* Mysore. *Int.* 1854. *Ht.* 6 to 12 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow, crimson; May to Aug. *Compost*, equal parts peat, leaf-mould & sand, with little loam. *Position*, well drained pots in plant stove, with shoots trained up rafters or on trellis. *Pot*, Feb. or Mar. *Prune* shoots in closely immediately after flowering. *Water* freely Ap. to Sept., moderately other times. *Apply* weak liquid manure to plants in flower. *Syringe* daily Mar. till flowers appear. *Temp.*, Mar. to Sept. 65° to 80°; Sept. to Mar. 50° to 55°. *Propagate* by cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75° in March to Aug.

Hibbertia.—*Ord.* Dilleniaceæ. Greenhouse flowering climber *Nat.* Australia. *Int.* 1816. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, yellow; Mar. to Aug. *Compost*, equal parts loam & peat & little sand. *Position*, pots, tubs, or beds; shoots trained up rafters. *Pot or plant*, Feb. or Mar. *Prune* straggling shoots, Feb. *Water* abundantly Mar. to Sept., moderately afterwards. *Temp.* Mar. to Oct., 55° to 75°; Oct. to Mar. 45° to 55°. *Propagate* by cuttings of moderately firm shoots 2 to 3 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Ap. to Aug.

Hibiscus (African Ketmia, Brown Hemp, Hemp Mallow, Musk Mallow, Rose Mallow, Malabar Rose, Blacking-plant, Chinese Rose Mallow, Shoeblack-plant, Shoe-flower, Fringed Rose Mallow, Hardy Scarlet Hibiscus, Rose of Sharon, Painted Lady Mallow, Bladder Ketmia, Flower-of-an-hour, Good-night-at-noon, Venice Mallow, Althæa frutex).—*Ord.* Malvaceæ. Stove evergreen & hardy deciduous shrubs, hardy annuals & perennials. Flowering & orn. foliage. *Nat.* N. America, U.S.A., China, Japan, Africa, Syria. *Int.* 1596. *Ht.* 2 to 15 ft. *Species* cultivated, 3 stove, 3 perennials, 1 annual; varieties numerous. *Flowers*, scarlet, rose, yellow, crimson, white, purple; double & single; Ap. to Oct. *Leaves*, green, or variegated with cream, rose, & crimson. *Culture of stove species: Compost*, equal parts fibry peat & loam, with charcoal & sand. *Position*, well drained pots or beds, with shoots trained to wall. *Pot or plant*, Feb. or Mar. *Prune* into shape, Feb *Water* abundantly Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Culture of perennial species: Soil* ordinary. *Position*, well drained sunny border. *Plant*, Oct. or Mar. *Cut* down stems in Oct. *Culture of annual species: Soil*, ordinary. *Position* sunny beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep in Ap. where plants are to flower. *Propagate* stove species by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy peat under bell-glass in temp. 75° in Mar., by cuttings of firm shoots inserted in sandy peat under bell-glass in temp. 75° in spring or sum., by grafting in Mar.; perennial species by seeds sown outdoors in Ap., or division of root in Mar.; annual species by seeds sown as directed above.

Hickory (*Carya alba*)—see Carya.

Hickory Pine-tree (*Pinus Balfouriana*)—see Pinus.

Hieracium (Golden Mouse-ear, Grim-the Collier, Orange-flowered Hawk-weed, Mouse-ear, Mouse-ear Hawk-weed).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* Europe (Britain), Asia, N. America. *Int.* 1732. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, lemon, red, orange; June to Aug. *Soil*, ordinary. *Position*, sunny banks or elevated borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in Mar. or Ap.; division of roots any time in spring.

Hierochloe (Holy Grass). — *Ord.* Graminaceæ. Hardy orn. perennial grasses. *Nat.* N. Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Inflorescence*, chestnut-coloured, fragrant, borne in panicles; May to July. *Soil*, ordinary. *Position*, damp, shady borders, or margins of ponds. *Plant*, Mar. or Ap. *Propagate* by seeds sown in damp position outdoors in spring; division of plants in Mar.

Higginsia.—*Ord.* Cinchonaceæ. Stove orn. foliage & flowering perennials. *Nat.* S. America. *Int.* 1859. *Ht.* 1 to 4 ft. *Species* cultivated, 6. *Flowers*, yellow, red; Ap. to Aug. *Leaves*, deep green, velvety green, grey, reddish crimson, creamy white, reddish purple. *Compost*, two parts peat, one of sand & charcoal. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* daily Feb. to Sept. *Temp.*, Feb. to Aug. 70° to 80°; Aug. to Nov. 65° to 75°; Nov. to Feb. 60° to 70°. *Propagate* by cuttings of shoots 2 to 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75°, Feb. to June.

High-Clere Holly (*Ilex aquifolium altaclarensis*)—see Ilex.
Hig-taper (*Verbascum Thapsus*)—see Verbascum.
High Mallow (*Malva sylvestris*)—see Malva.
High-taper (*Verbascum Thapsus*)—see Verbascum.
Highland Pine-tree (*Pinus sylvestris horizontalis*)—see Pinus.
Hill Daphne (*Daphne collina*)—see Daphne.
Himalayan Andromeda (*Andromeda fastigiata*)—see Andromeda.
Himalayan Honeysuckle (*Leycesteria formosa*)—see Leycesteria.
Himalayan Laurel (*Aucuba himalaica*)—see Aucuba.
Himalayan Lilac (*Syringa emodi*)—see Syringa.
Himalayan Oak (*Quercus lanata*)—see Quercus.
Himalayan Primrose (*Primula sikkimensis*)—see Primula.
Himalayan Raspberry (*Rubus rugosus*)—see Rubus.
Himalayan Wallflower (*Erysimum pachycarpum*)—see Erysimum.
Himalayan White Lily (*Lilium polyphyllum*)—see Lilium.

Hindsia.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1844. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, ultramarine blue; May to Aug. *Compost*, equal parts rough fibrous peat, light loam, silver sand & charcoal. *Position*, well drained pots in light stove. *Pot*, Feb. or Mar. *Water* freely Ap. to Sept., moderately afterwards. *Prune* into shape, Feb. *Temp.*, Feb. to Aug. 65° to 75°; Aug. to Nov. 60° to 70°; Nov. to Feb. 55° to 65°. *Propagate* by cuttings of firm shoots inserted in well drained pots of pure silver sand under bell-glass in temp. 65° to 75° in Mar. or June.

Hippeastrum (Barbadoes Lily, Knight's Star Lily, Mexican Lily). —*Ord.* Amaryllidaceæ. Stove bulbous plants. Deciduous. *Nat.* Trop. America. *Int.* 1677. *Ht.* 1 to 2 ft. *Species* cultivated, about 6; varieties numerous. *Flowers*, various; Feb. to July. *Compost*, two parts turfy loam, one part river sand & a few crushed bones. *Position*, well drained pots in light part of stove. *Pot*, Feb., burying bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* large bulbs annually & repot every three or four years only. *Temp.*, Feb. to Sept. 65° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings singly in 2-in. pots & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs. *Seedlings* are six to seven years before they flower.

Hippocrepis (Horse-shoe Vetch).—*Ord.* Leguminosæ. Hardy evergreen herb. *Nat.* Europe (Britain). *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; Ap. to Aug. *Soil*, ordinary. *Position*, sunny rockeries or elevated borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in deep in fine soil in sunny position outdoors in Mar. or Ap.; division of roots in Mar.

Hippophae (Sea Buckthorn, Sallow-thorn). — *Ord.* Elæagnaceæ. Hardy deciduous berry-bearing shrub. *Nat.* Europe (Britain), Asia, Himalayan Mountains. *Ht.* 3 to 15 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow; May. *Berries*, orange; autn. & winter. *Soil*, ordinary. *Position*, open or shady shrubberies & inland or seaside gardens. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Nov. or Dec.; by cuttings of roots inserted in Feb. or Mar. in ordinary soil outdoors; layering shoots in autn.

Hippuris (Mare's-tail).—*Ord.* Haloragaceæ. Hardy aquatic perennial. Orn. foliage. *Nat.* Europe (Britain), Asia. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, green; sum. *Leaves*, narrow, strap-shaped; in circles round the stem. *Soil*, mud. *Position*, bogs, ponds, or damp places. *Plant*, Mar. to June. *Propagate* by division of roots, Mar.

Hips (*Rosa canina*)—see Rosa.

Hirst Beech (*Carpinus betulus*)—see Carpinus.

Hoffmania.—*Ord.* Rubiaceæ. Stove orn. flowering plants. *Nat* Jamaica, Mexico, S. America. *Int.* 1850. *Ht.* 6 in. to 4 ft. *Species* cultivated, 5. *Flowers*, white, yellow, red; May to Aug. *Leaves*, green, variegated with purple, red, creamy white, & yellow. *Compost*, two parts peat & one of sand & charcoal. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* daily Feb. to Sept. *Temp.*, Feb. to Aug. 70° to 80°; Aug. to Nov. 65° to 75°. *Propagate* by cuttings of shoots 2 to 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75°., Feb to June.

Hohenhacker's Bell-flower (*Campanula Hohenhackeri*)—see Campanula.

Hoary Azalea (*Azalea canescens*)—see Azalea.

Hoary German Madwort (*Alyssum semonense*)—see Alyssum.

Hoary Groundsel (*Senecio incanus*)—see Senecio.

Hoary Sea-Lavender (*Statice incana*)—see Statice.

Hoary Lavender-Cotton (*Santolina canescens*)—see Santolina.

Hoary Polypody (*Polypodium incanum*)—see Polypodium.

Hoary Rock-rose (*Cistus incanus*)—see Cistus.

Hoary Starwort (*Aster canescens*)—see Aster.

Hoary-leaved Alder (*Alnus incana*)—see Alnus.

Hoary-leaved Sun-rose (*Helianthemum canum*) — see Helianthemum.

Hole-wort (*Corydalis tuberosa*)—see Corydalis.

Holcus (Dart Grass, Hose Grass, Soft Grass, Midge Grass, Velvet Grass, Yorkshire Fog Grass, Variegated Fog Grass).—*Ord.* Graminaceæ. Hardy orn. perennial grass. *Nat.* Europe (Britain), Asia, Africa. *Ht.* 6 to 18 in. *Species* cultivated, 1; variety, 1. *Leaves*, soft, woolly, green, variegated with silvery white. *Soil*, ordinary. *Position*, edgings to beds or borders, or in clumps in borders. *Plant*, Oct., Mar. or Ap. *Propagate* by division of plants in Oct., Mar. or Ap. Variegated kind only grown in gardens.

Holford's Sea-Lavender (*Statice Holfordi*)—see Statice.

Holm (*Ilex aquifolium*)—see Ilex.

Holm Oak (*Quercus ilex*)—see Quercus.

Holy Ghost-flower (*Peristeria elata*)—see Peristeria.

Holy Grass (*Hierochloë borealis*)—see Hierochloë.

Holy Hemp (*Galeopsis ladanum*)—see Galeopsis.

Holy Hoke (*Althæa rosea*)—see Althæa.

Holy Rose (*Andromeda polifolia*)—see Andromeda.

Holy Thistle (*Carduus benedictus* & *Silybum marianum*)—see Carduus & Silybum.

Hollyhock (*Althæa rosea*)—see Althæa in Appendix.

Hollyhock Mallow (*Malva alcea*)—see Malva.

Hollow-leaved Violet (*Viola cucullata*)—see Viola.

Hollow-root (*Corydalis tuberosa*)—see Corydalis.

Hollow-wort (*Corydalis tuberosa*)—see Corydalis.

Holly (*Ilex aquifolium*)—see Ilex.

Holly Fern (*Polystichum Lonchitis*)—see Polystichum.

Holly Oak (*Quercus ilex*)—see Quercus.

Holly-leaved Barberry (*Berberis aquifolius*)—see Berberis.

Holly-leaved Hellebore (*Helleborus argutifolius*)—see Helleborus.

Holly-leaved Lobelia (*Lobelia ilicifolia*)—see Lobelia.

Holly-leaved Oak (*Quercus gramuntia*)—see Quercus.

Holly-leaved Olive-tree (*Olea ilicifolia* & *Osmanthus ilicifolius*)—see Olea & Osmanthus.

Home-wort (*Sempervivum tectorum*)—see Sempervivum.

Honesty (*Lunaria biennis*)—see Lunaria.

Honey-balm (*Melittis melissophyllum*)—see Melittis.

Honey-plant (*Hoya carnosa*)—see Hoya.

Honeysuckle (*Lonicera periclymenum*)—see Lonicera.

Honeysuckle-leaved St. John's-wort (*Hypericum caprifolium*)—see Hypericum.

Hooded-leaved Elm (*Ulmus campestris cucullata*)—see Ulmus.

Hoodia.—*Ord.* Asclepiadaceæ. Greenhouse succulent plants. Flowering & orn foliage. *Nat.* Karraoo, Orange River. *Int.* 1874. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, yellow, buff, flesh; June to Aug. *Stems*, cylindrical, prickly, leafless. *Compost*, equal parts sandy loam, old mortar, broken bricks & dry cow manure. *Position*, well drained pots, fully exposed to sun in warm greenhouse. *Repot* every three or four years in Feb. or Mar. *Water* moderately Mar. to Oct., keep quite dry Oct. to Mar. *Temp.*, Ap. to Sept. 65° to 75°; Sept. to Ap. 45° to 55°. *Propagate* by portions of fleshy stems 3 in. long cut clean at base & laid on sunny shelf to dry for several days, then insert in small well drained pots of sandy soil in temp. of 55° to 65°, Ap. to Aug.

Hooker's Barberry (*Berberis Hookeri*)—see Berberis.

Hooker's Catchfly (*Silene Hookeri*)—see Silene.

Hooker's Indian Crocus (*Pleione Hookeriana*)—see Pleione.

Hooker's Pitcher-plant (*Nepenthes Hookeriana*)—see Nepenthes.

Hook-leaved Side-saddle-flower (*Sarracenia variolaris*)—see Sarracenia.

Hook-spurred Violet (*Viola canina adunca*)—see Viola.

Hoopes's Helen-flower (*Helenium Hoopesi*)—see Helenium.

Hop (*Humulus lupulus*)—see Humulus.

Hop Oil-plant (*Humulus lupulus*)—see Humulus.

Hopes (*Matthiola incana*)—see Matthiola.

Hordeum (Squirrel-tail Grass, Bear Barley).—*Ord.* Graminaceæ. Hardy annual flowering grass. *Nat.* N. America. *Int.* 1782. *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Inflorescence*, barley-like, borne in spikes; June to

Sept.; very useful for cutting. *Soil*, ordinary. *Position*, open dryish borders. *Propagate* by seeds sown ⅛ in. deep in Mar. or Ap. in borders where plants are required to flower.

Horizontal-branched Ash (*Fraxinus excelsior horizontalis*)—see Fraxinus.

Horizontal-branched Starwort (*Aster horizontalis*)—see Aster.

Horizontal Cypress (*Cupressus sempervirens horizontalis*)—see Cupressus.

Horminum (Pyrenean Dead-nettle).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* Pyrenees. *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, blue, purple; May to Aug. *Soil*, ordinary. *Position*, open well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in Mar. or Ap.; by division of roots Oct. to Mar.

Hornbeam (*Carpinus betulus*)—see Carpinus.

Hornbeam-leaved Elm (*Ulmus carpinifolia*)—see Ulmus.

Horn-leaved Saxifrage (*Saxifraga ceratophylla*)—see Saxifraga.

Horned Orchis (*Ophrys cornuta*)—see Ophrys.

Horned Poppy (*Glaucium luteum*)—see Glaucium.

Horned Rampion (*Phyteuma orbiculare*)—see Phyteuma.

Horned Violet (*Viola cornuta*)—see Viola.

Horse Beech (*Carpinus betulus*)—see Carpinus.

Horse Chestnut (*Æsculus hippocastanum*)—see Æsculus.

Horse Gowan (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Horse Grain (*Dolichos biflorus*)—see Dolichos.

Horse-hoof (*Tussilago farfara*)—see Tussilago.

Horse Mint (*Monarda punctata*)—see Monarda.

Horse Radish (*Cochlearia armoracia*)—see Cochlearia.

Horse-tongue (*Scolopendrium vulgare & Ruscus hypoglossum*)—see olopendrium & Ruscus.

Horsfield's Daffodil (*Narcissus Horsfieldi*)—see Narcissus.

Hose-in-Hose Polyanthus (*Primula elatior var.*)—see Primula.

Host's Campanula (*Campanula Hosti*)—see Campanula.

Hoteia—see Spiræa.

Hottonia (Common Water Violet, Water Feather-foil, Water Gilliflower).—*Ord.* Primulaceæ. Hardy aquatic perennial herb. *Nat.* Europe (Britain), Siberia. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, lilac, yellow; May to June. *Soil*, ordinary. *Position*, margins of ponds & rivulets or in bogs. *Plant*, Mar. or Ap. *Propagate* by seeds sown in muddy soil in shallow water in Mar. or Ap.; division of plants Mar. or Ap.

Houlletia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. Evergreen. *Nat.* Brazil, Columbia, New Grenada. *Int.* 1841. *Ht.* 1 to 2 ft. *Species* cultivated, 4; variety, 1. *Flowers*, yellow, chocolate, crimson, white, orange, brown, purple, fragrant; June to Sept. *Compost*, two parts fibrous peat, one part sphagnum. *Position*, baskets suspended from roof of stove. *Re-basket*, Feb. or Mar. *Water* abundantly Mar. to Sept., moderately Sept. to Mar. *Temp.*, May to Aug. 65° to 85°; Aug. to Nov. & Mar. to May, 60° to 70°; Nov. to May, 55° to 65°. *Propagate* by division of pseudo-bulbs when growth commences.

Hound-berry-tree (*Corus sanguinea*)—see Cornus.

Hound's-tongue (*Cynoglossum alpinum*)—see Cynoglossum.

House Leek (*Sempervivum tectorum*)—see Sempervivum.

Houstonia (Bluets).—*Ord.* Rubiaceæ. Hardy herbaceous perennials. *Nat.* N.W. America. *Int.* 1785. *Ht.* 3 to 4 in. *Species* cultivated, 2. *Flowers*, blue, white; May to Aug. *Soil*, leaf-mould & sand. *Position*, crevices, nooks & crannies in moist rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pans of leaf-mould & sand in cold frame in spring or autn.; division of roots in Sept. or Oct.

Hovea.—*Ord.* Leguminosæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1818. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, blue; Ap. to July. *Compost*, three parts peat, one part loam & little silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Nip* off points of young shoots in spring to induce bushy growth. *Water* freely Ap. to Sept., moderately Sept. to Ap. *Temp.*, Mar. to Sept. 55° to 65°, Sept. to Mar. 45° to 50°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy peat in temp. of 55° to 65° in Mar. or Ap.; cuttings inserted in sandy soil under bell-glass in temp. 55° Ap. to July.

Howea—see Kentia.

Hoya (Honey-plant, Wax-flower-plant, Wax-flower-climber, Manilla Wax-flower, Imperial Wax-flower).—*Ord.* Asclepiadaceæ. Stove & greenhouse climbing flowering plants. Evergreen. *Nat.* N. S. Wales, India, Java, Manilla, Borneo, China. *Int.* 1802. *Ht.* 3 to 15 ft. *Species* cultivated, 8 stove, 1 greenhouse. *Flowers*, white, yellow, pink, crimson, purplish; Mar. to Nov. *Compost*, equal parts peat & loam, little charcoal & sand. *Position*, well drained pots, beds, or hanging baskets, with shoots trained round trellises, up rafters, or against walls, & fully exposed to the light. *Pot or plant*, Feb. or Mar. *Water* freely Mar. to Sept., moderately Sept. to Mar. *Temp.*, stove species, 65° to 75° Mar. to Oct., 55° to 65° Oct. to Mar.; greenhouse species, 55° to 65° Mar. to Sept., 45° to 55° Sept. to Mar. *Prune* into shape, Feb. *Foot stalks* of flowers should not be removed after blooming, as these will produce a second crop of flowers. *Propagate* by cuttings of shoots of preceeding year's growth inserted in well drained pots of sandy peat under bell glass in temp. of 75° to 85° in Mar., Ap. or May; layering shoots in pots of sandy peat in spring or sum.; grafting (*H. bella* & *H. Paxtoni*) on *H. carnosa* in Mar. or Ap.

Huckle-berry (*Vaccinium myrtillus*)—see Vaccinium.

Hudsonia (American False Heath).—*Ord.* Cistinaceæ. Half-hardy evergreen flowering shrubs. *Nat.* N. America. *Int.* 1805. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Compost*, two parts peat & one of sand. *Position*, well drained pots in unheated greenhouse, or outdoors June to Sept. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely Mar. to Oct., moderately afterwards. *Propagate* by cuttings of firm shoots 1 to 2 in. long inserted in well drained pots of silver sand under bell-glass in greenhouse, Ap. to Aug.; layering in Sept. & Oct.

Hudson's Bay Black Currant (*Ribes Hudsonianum*)—see Ribes.

Hudson's Bay Pine-tree (*Pinus Banksiana*)—see Pinus.

Huleh Lily (*Lilium martagon*)—see Lilium.

Humble-plant (*Mimosa pudica*)—see Mimosa.

Humboldt's Lily (*Lilium Humboldti*)—see Lilium.

Humea (Amaranth Feathers).—*Ord.* Compositæ. Half-hardy biennial. *Nat.* Australia. *Int.* 1800. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, red, pink, crimson, borne in large, graceful, feathery panicles; June to Oct. *Greenhouse culture:* *Compost*, two parts sandy loam, half a part decayed manure, half a part charcoal & silver sand. *Position*, well drained pots in cold frame during sum.; airy greenhouse in winter & when in flower. *Pot*, Mar. *Water* freely Mar. to Oct., very little afterwards. *Syringing* unnecessary. *Temp.*, Oct. to Ap. 45° to 55°; Ap. to Oct. 55° to 65°. *Discard* plants after flowering. *Outdoor culture:* *Soil*, ordinary rich. *Position*, sunny well drained beds or borders. *Plant*, June. *Water* freely in dry weather. *Propagate* by seeds sown on surface of fine mould in well drained pots or pans, covering seeds slightly with fine soil, in July, in cold frame or greenhouse.

Humulus (Common Hop, Japanese Hop).—*Ord.* Urticaceæ. Hardy annual & perennial twining climbers. *Nat.* Europe (Britain), Asia, N. America, China, Japan. *Int.* (foreign species) date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, greenish yellow; July to Sept. Male blooms borne in axillary panicles, & female blooms in cones in clusters on separate plants; the latter form the hop of commerce, & are the most ornamental. *Culture of annual species: Soil*, ordinary rich. *Position*, sunny or shady walls, fences, trellises, arbors, or tree stumps. *Plant*, May or June. *Water* freely in dry weather. *This species* an excellent plant for covering unsightly objects rapidly in sum. *Culture of perennial species: Soil*, deep rich & well manured loam. *Position*, sunny walls, fences, arbors, trellises, tree stumps, or in open ground with shoots trained round poles. *Plant* singly in groups of three, or 6 or 12 in. apart in rows 4 to 5 ft. asunder, Feb. or Mar. *Top-dress* annually with decayed manure in Feb. or Mar. *Mulch* with decayed manure in Ap. *Water* freely in dry weather. *Gather* female flowers (hops) in Sept. for drying. *Cut* down plants in Oct. *Young* shoots 4 to 6 in. long form an excellent substitute for asparagus if gathered in spring. *Propagate* annual species by seeds sown ⅛ in. deep in pots of ordinary soil in cool or heated greenhouse in Ap., or where plants are required to grow in May; perennial species by seeds sown ⅛ in. deep in ordinary soil outdoors in Mar. or Ap.; division of roots in Mar. Annual species invariably sows itself after first year.

Hundred-leaved Grass (*Achillea millefolium*)—see Achillea.

Hundred-leaved Rose (*Rosa centifolia*)—see Rosa.

Hungarian Balsam-tree (*Pinus pumilio*)—see Pinus.

Hungarian Maple (*Acer obtusa*)—see Acer.

Hungarian Oak (*Quercus conferta*)—see Quercus.

Hungarian Pink (*Dianthus collinus*)—see Dianthus.

Hungarian Speedwell (*Veronica teucrium*)—see Veronica.

Hunnemannia.—*Ord.* Papaveraceæ. Half-hardy herbaceous perennial. *Nat.* Mexico. *Int* 1827. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; July to Oct. *Soil*, ordinary rich. *Position*, sunny well drained border at base of south wall. *Plant*, Mar *Protect* with cocoanut-fibre refuse, tan, or leaves in winter. *Propagate* by seeds sown in Ap. or Sept. where plants are required to grow, thinning seedlings out in spring or sum.

Huntingdon Elm (*Ulmus glabra vegeta*) -see Ulmus.

Huntingdon Willow (*Salix alba*)—see Salix.

Huntsman's Cup (*Sarracenia purpurea*) see Sarracenia.

Huntsman's Horn (*Sarracenia flava*)—see Sarracenia.

Huon Pine-tree (*Dacrydium Franklini*)—see Dacrydium.

Hurst Beech (*Carpinus betulus*)—see Carpinus.

Hurt-sickle (*Centaurea cyanus*)—see Centaurea.

Hurtle-berry (*Vaccinium myrtillus*)—see Vaccinium.

Hutchinsia.—*Ord.* Cruciferæ. Hardy alpine annual & perennial. *Nat.* C. & S. Europe (Britain). *Int.* (foreign species) 1775. *Ht.* 3 in. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, white; Mar. to June. *Soil*, sandy. *Position*, open sunny rockeries or margins of borders. *Plant*, Mar. or Ap. *Propagate* annual species by seeds sown & slightly covered with fine soil where plants are required to grow in Mar. or Ap.; perennial species by seeds sown similarly, or by division of plants in Mar. or Ap.

Hyacinth (*Hyacinthus orientalis*)—see Hyacinthus.

Hyacinth Bean (*Dolichos vulgaris*)—see Dolichos.

Hyacinth-scented Rose (*Rosa hyacinthina*)—see Rosa.

Hyacinthus (Amethyst Hyacinth, Spanish Hyacinth, Garden Hyacinth, Roman Hyacinth, Late-flowering Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* (Common Hyacinth) Syria.

Switzerland, Italy; (Roman Hyacinth) S. of France; (Spanish Hyacinth) S. Europe. *Int.* (Hyacinth) 1596; (Roman Hyacinth) date unknown; (Spanish Hyacinth) 1759. *Ht.* 4 to 12 in. *Species* cultivated, 2; sub-species, 2; varieties numerous. *Flowers*, all shades; winter & spring. *Culture of Common Hyacinths in Pots: Compost*, equal parts fibrous loam & well decayed manure, one-sixth river sand. *Position*, under cinder ashes in cold frame or outdoors Nov. to Feb.; afterwards in window or greenhouse. *Pot*, Nov. & Dec., placing one bulb half its depth in a 6-in. pot or three in an 8-in. pot. *Water* only when growth begins, & moderately afterwards. *Apply* liquid manure occasionally when flower spikes form. *After flowering*, plant bulbs outdoors. *Culture in Glasses: Place* bulbs in glasses so that base just touches water. *Time*, Nov. or Dec. *Water*, soft or rain, & little charcoal; add fresh as required. *Put* in dark position until roots form, then remove to light. No stimulant needful. *Plant* bulbs outdoors after flowering. *Culture in Beds: Soil*, ordinary, enriched with manure previous autn. *Position*, open sunny. *Plant* bulbs 3 to 4 in. deep & 8 in. apart, Nov. *Protect* surface of bed by covering of cocoanut-fibre refuse. *Apply* liquid manure once or twice when flower spikes appear. *Lift* & dry bulbs in June, storing them in cool place till planting time. *Culture of Roman Hyacinth: Compost*, as advised above. *Position*, pots under ashes in cold frame or outdoors till rooted, then in heated greenhouse or window. *Pot*, Aug., Sept. & Oct., placing one bulb in a 4-in. pot or three in a 5-in. pot. *Depth for planting*, 1 in. *Water* only when removed from the ashes, & moderately afterwards. *Temp.* when in greenhouse or window, 55° to 65°. *Bulbs* of no use after flowering. *Culture of Spanish Hyacinth: Soil*, light rich. *Position*, well drained sunny borders. *Plant*, Sept. or Oct. *Top-dress* annually with decayed cow manure in Feb. *Lift & replant* only when bulbs show signs of deterioration. *Propagate* by seeds sown ½ in. deep in light sandy soil in boxes in cold frame or outdoors in Sept.; by offsets removed from old bulbs when lifted & planted 6 in. apart each way outdoors in Oct. *Seedling* bulbs flower when three years old, & attain full size when seven years old.

Hybrid Guinea Nightshade (*Solanum hybridum*)—see Solanum.

Hydrangea.—*Ord.* Saxifragaceæ. Greenhouse & hardy flowering shrubby plants. Deciduous. *Nat.* China, Japan, Florida. *Int.* 1736. *Ht.* 2 to 6 ft. *Species* cultivated, 6; varieties, several. *Flowers* (enlarged calyces), white, rose. blue; Ap. to Sept. *Leaves*, egg-shaped, green or variegated with yellow or white. *Pot culture of H. hortensis: Compost*, two parts rich loam, one part well decayed manure & river sand. *Position*, cool greenhouse, frame, or room, Oct. to Mar.; heated greenhouse or warm window, Mar. to Oct. *Pot*, Feb. to Mar. *Water* abundantly Mar. to Oct., moderately Oct. to Mar. *Prune*, Aug. or Sept., cutting out all weak shoots & such as have flowered. *Flowers* borne on vigorous shoots of previous year's growth. *Best* blooms obtained on plants propagated by cuttings annually in Aug. *Apply* liquid or artificial manure frequently to plants showing flower. *Temp.* for early flowering (Jan. to May), 55° to 65°. *Outdoor culture of H. hortensis: Soil*, ordinary rich. *Position*, shady well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Prune* straggling or dead shoots in Mar. *Top-dress* annually with decayed cow manure. *Apply* liquid manure when in flower. *A good* plant for seaside gardens in S. & W. of England. *Pot culture of H. paniculata: Compost* as above. *Position*, cold frames, unheated greenhouses, or windows. *Pot*, Feb. or Mar. *Prune* previous year's shoots to within 1 in. of base in Jan. or Feb. *Water* freely Mar. to Oct., keep nearly dry Oct. to Mar. *Apply* liquid manure frequently when showing flower. *After flowering*, place in sunny position outdoors until Nov. *Outdoor culture of H. paniculata: Soil*, two parts rich turfy loam, one part decayed cow manure & river sand. *Position*, partially shaded, well drained bed or border. *Plant*, Oct., Nov. or Mar. *Top-dress* annually with decayed manure in Feb. or Mar. *Water* freely in dry weather. *Apply* liquid manure when flower buds appear. *Prune* as advised for pot culture in Mar. *Culture of hardy species: Soil*, ordinary. *Position*, sheltered well drained borders. *Plant*, Oct. or Nov. *Prune* into shape, Feb. *Top-dress* annually with decayed manure. *Apply* liquid manure when in flower. *Blue flowers* may be obtained by planting in yellow loam, bog peat, or clay, or in a compost of five parts loam & one part iron filings, or by applying one of the following solutions: Dissolve a tablespoonful of alum in a gallon of soft water, & use 12 hours afterwards; one tablespoonful of saltpetre & half a tablespoonful of oxide of iron in three gallons of water, & use 24 hours afterwards. Apply both twice a week. *Propagate* by cuttings of young shoots inserted singly in 2 in. pots of light sandy soil under bell-glass in temp. 55° to 65° in Mar. or Ap.; cuttings of points of firm shoots 2 to 3 in. long inserted in well drained pots of sandy soil in cold frame in Aug.; by grafting on rooted cuttings or pieces of the soft thick roots of common species in a temp. of 65° to 70° in Feb., Mar. or Ap.; division of old plants in Mar.

Hydrastis (Ground Raspberry, Golden-seal, Orange-root, Turmeric-root).—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1759. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, green, white; May to June. *Soil*, equal parts sandy loam & leaf-mould. *Position*, moist sheltered borders. *Plant*, Mar. *Propagate* by division of roots, Mar. or Ap.

Hydrocharis (Frog-bit).—*Ord.* Hydrocharidaceæ. Hardy aquatic perennial. *Nat.* Europe (Britain), N. Asia. *Stems* floating. *Species* cultivated, 1. *Flowers*, pale green, white; May to Aug. *Soil*, muddy. *Position*, shallow ponds, lakes or rivulets. *Plant*, Mar. or Ap. *Propagate* by creeping shoots detached from plant & inserted in mud under water in Mar. or Ap.

Hydropeltis.—*Ord.* Nymphaceæ. Hardy aquatic perennial. *Nat.* N. America. *Int.* 1798. *Species* cultivated, 1. *Flowers*, purple; June to Sept. *Leaves*, buckler-shaped, floating. *Soil*, muddy. *Position*, shallow tanks or ornamental ponds. *Plant*, June. *Propagate* by offsets planted in the water in June.

Hymenocallis.—*Ord* Amaryllidaceæ. Stove & greenhouse bulbous plants. Evergreen & deciduous. *Nat.* Chili, Brazil, Mexico, Florida, W. Indies, Ecuador, Guiana. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 4 stove, 2 greenhouse. *Flowers*, white, fragrant; Feb. to Oct. *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly Ap. to Sept., moderately Sept. to Dec., keep quite dry Dec. to Mar. *Apply* liquid manure once or twice a week May to Sept. *Temp.* for stove species, 70° to 80° Mar. to Sept., 55° to 65° Sept. to Mar.; greenhouse species, 55° to 65° Ap. to Sept., 45° to 50° Sept. to Ap. *Propagate* by offsets removed from old bulbs in Mar. & treated as above.

Hymenodium (Elephant's-ear Fern).—*Ord.* Filices. Stove evergreen fern. *Nat.* W. Indies. *Int.* 1793. *Ht.* 9 to 18 in. *Species* cultivated, 1. *Fronds*, oblong, rounded. *Compost*, equal parts peat, loam, leaf-mould, silver sand & charcoal. *Position*, well drained pots in shade. *Pot*, Mar. *Water* freely Mar. to Oct., moderately other times. *Temp.*, Mar. to Sept, 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by spores sown as advised for Hymenophyllum; division of plant at potting time.

Hymenophyllum (Tunbridge Fern, Filmy Fern, Tunbridge Goldilocks, Wilson's Filmy Fern).—*Ord.* Filices. Stove, greenhouse & hardy ferns. *Nat.* Britain, Australia, Trop. America, W. Indies. *Int.* (foreign species) 1824. *Ht.* 3 to 12 in. *Species* cultivated, 7 stove, 3 greenhouse, 2 hardy. *Fronds*, feathery, delicate, membraneous. *Culture of stove & greenhouse species: Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Syringing* unsuitable. *Shade* most essential. *Temp.* for stove species, 65° to 75° Mar. to Oct., 55° to 65° Oct. to Mar.; greenhouse species, 55° to 65° Mar. to Sept., 45° to 55° Sept. to Mar. *Culture of hardy species: Compost* as above. *Position*, deep moist shady frames, pits, caverns, or tubs; away from direct light & sunshine. *Plant*, Mar. *Water* freely in sum., moderately other times. *No syringing* required. *Protect* in severe weather. *Culture in cases in rooms: Compost* as above. *Position*, shady window, not exposed to sun. *Plant*, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely Ap. to Sept., moderately afterwards. *Ventilate* case few minutes daily. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Hyophorbe.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Rodiquez, Mauritius. *Int.* 1866. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Leaves*, feather-shaped, deep green. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, shady, moist. *Pot*, Feb. or Mar. *Water* abundantly Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.

Hypericum (Aaron's Beard, Rose of Sharon, St. John's-wort, St. John's-grass, Tutsan).—*Ord.* Hypericenaceæ. Hardy & half-hardy shrubs & herbaceous perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Africa, Levant, Siberia, Japan, N. America, Java, Nepaul. *Int.* (foreign species) 1543. *Ht.* 6 in. to 6 ft. *Species* cultivated, 15 shrubs, 7 perennials. *Flowers*, yellow; Ap. to Sept. *Culture of shrubby species: Soil*, ordinary. *Position* (H. calycinum) on banks & under shade of trees; others in sunny borders. *Plant*, Oct., Nov., Feb., Mar. *Prune* deciduous species into shape Feb.; evergreens in Ap. *Culture of perennial species: Soil*, ordinary, sandy. *Position*, sunny borders or rockeries. *Plant*, Oct. or Ap. *Cut* down stems in Oct. *Top-dress* with decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in sunny position outdoors in Mar.; shrubby species by cuttings of firm shoots 3 in. long inserted in sandy soil outdoors, Aug. or Sept.; perennials by division of roots in Ap. or Oct.

Hypoestes.—*Ord.* Acanthaceæ. Stove flowering perennials. Evergreen. *Nat.* S. Africa, Madagascar. *Int.* 1811. *Ht.* 6 to 36 in. *Species* cultivated, 2. *Flowers*, rose, purple, white; Feb. to May. *Compost*, equal parts loam, leaf-soil, & little sand. *Position*, well drained pots in sunny, cold frame June to Sept.; plant stove from Sept. to June. *Pot*, Mar. or Ap. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Prune* into shape after flowering. *Propagate* by cuttings of shoots inserted in small pots of sandy soil under bell-glass in temp. 75° to 85°, Feb. to May.

Hypolepis.—*Ord.* Filices. Stove, greenhouse, & hardy ferns. Evergreen. *Nat.* S. Africa, California, New Zealand, Australia, Trop. America. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 2 stove, 3 greenhouse, 1 hardy. *Fronds*, feather-shaped. *Culture of stove species: Compost*, equal parts loam, leaf-mould & sand. *Position*, well drained pots in shady part of stove. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringing* undesirable. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Culture of greenhouse species: Compost*, as above. *Position*, well drained pans or beds in shade. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 55°. *Culture of hardy species: Compost*, as above. *Position*, shady sheltered bed or rockery. *Plant*, Ap. *Water* in dry weather. *Protect* with fern litter or straw in severe weather. *Propagate* by spores sown on surface of well drained pans of sandy peat & leaf-mould under bell-glass in temp. 65° to 75° at any time; division of creeping rhizomes in Mar.

Hypoxis (American Star Grass).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. *Nat.* N. America, Cape of Good Hope, Natal, Algoa Bay.

Int. 1752. *Ht.* 6 to 18 in. *Species* cultivated, 5. *Flowers*, yellow, white, blue; Ap. to Aug. *Compost*, two parts peat, one of leaf-mould & sand. *Position*, well drained pots, or beds in cold frame. *Pot*, Aug. to Nov., covering pots with cinder ashes in cold frame or greenhouse till growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually withhold it, keeping bulbs dry until growth recommences. *Temp.*, Sept. to Feb. 40° to 50°; 50° to 60° afterwards. *Propagate* by offsets, removed at potting time, & treated as old bulbs.

Hyssop (*Hyssopus officinalis*)—see Hyssopus.

Hyssop-leaved Loose-strife (*Lythrum hyssopifolium*)—see Lythrum.

Hyssop-leaved Starwort (*Aster hyssopifolius*)—see Aster.

Hyssopus (Hyssop).—*Ord.* Labiatæ. Hardy evergreen shrub. *Nat.* S. Europe, Asia. *Int.* 1548. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, blue, red, white; June to Sept. *Leaves*, narrow, aromatic. *Shoots* & flowers, infused in water, are largely used as an expectorant. *Soil*, ordinary, light. *Position*, dry, warm borders. *Plant*, Mar. to May, 12 in. apart each way. *Prune* into shape, Ap. *Propagate* by seeds sown 1/16 in. deep outdoors in Ap., transplanting seedlings in June or July; cuttings of shoots inserted in ordinary soil & shady position in Ap. or May; division of roots in Feb., Mar., Sept. or Oct.

Iberian Comfrey (*Symphytum ibericum*)—see Symphytum.

Iberian Crane's-bill (*Geranium ibericum*)—see Geranium.

Iberian Cyclamen (*Cyclamen ibericum*)—see Cyclamen.

Iberian Honeysuckle (*Lonicera iberica*)—see Lonicera.

Iberian Iris (*Iris iberica*)—see Iris.

Iberian Maple (*Acer ibericum*)—see Acer.

Iberian Stonecrop (*Sedum ibericum*)—see Sedum.

Iberidella (Round-leaved Bastard-grass).—*Ord.* Cruciferæ. Hardy evergreen herb. *Nat.* European Alps. *Int.* 1868. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, rose, lilac, yellow, fragrant; Mar. to May. *Soil*, rich gritty loam. *Position*, deep fissures on sunny rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown 1/16 in. deep in well drained pots or pans of light soil in cold frame in Mar. or Ap., transplanting seedlings to rockery in June or July.

Iberis (Candytuft, Coris-leaved Candytuft, Late White Candytuft, Gibraltar Candytuft, Broad-leaved Candytuft, Evergreen Candytuft, Rocket Candytuft).—*Ord.* Cruciferæ. Hardy annuals & evergreen shrubs. *Nat.* Europe (Britain). *Int.*, annual candytuft, 1596; shrubby candytuft, 1679. *Ht.* 6 to 12 in. *Species* cultivated, 7 perennials, 4 annuals, varieties many. *Flowers*, purple, white, crimson, pink, lilac, fragrant; Mar. to Oct. *Culture of annual species:* *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds ⅛ in. deep in patches or lines in Mar., Ap. or May for flowering in sum., Aug. or Sept. for spring flowering. *Thin* out seedlings to 2 in. apart in June. *Pot culture:* *Compost*, two parts good soil, one part decayed manure, leaf-mould & sand. *Size* of pots, 5 in. in diameter. *Sow* seeds ⅛ in. deep in Ap. or May. *Place* pots in cold frame till June then stand outdoors. *Thin* seedlings to an inch apart in June. *Water* moderately. *Apply* weak liquid manure occasionally when flowers show. *Culture of shrubby species:* *Soil*, light sandy loam. *Position*, fissures or ledges of sunny rockeries or margins of well drained sunny borders. *Plant*, Oct., Mar. or Ap. *Propagate* annual species by seeds sown as above; perennial species by seeds sown 1/16 in. deep in shallow boxes of sandy soil in cold frame in Ap.; cuttings of partially formed shoots, from 1 to 2 in. long, inserted in well drained pots in cold frame or in beds under handlight outdoors July to Oct.; division of roots Oct. or Mar.

Iceland Poppy (*Papaver nudicaule*)—see Papaver.

Ice Plant (*Mesembryanthemum crystallinum*)—see Mesembryanthemum.

Idesia.—*Ord.* Bixinaceæ. Hardy flowering & orn. foliage tree. Deciduous. *Nat.* Japan. *Int.*, date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1; variety, 1. *Flowers* in panicles; male & female borne on separate trees; male flowers orange, female green. *Berries*, small, purplish black. *Leaves*, heart-shaped. *Soil*, ordinary, sandy. *Position*, well drained shrubberies. *Plant*, Oct. to Feb. *Prune* into shape after flowering. *Propagate* by seeds sown ⅛ in. deep in sandy soil in temp. 65° to 75° in Mar.; cuttings of firm shoots, 3 to 4 in. long, inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75° in Mar. or Sept.

Ilex (Holly, Christmas, Paraguay Tea).—*Ord.* Ilicinaceæ. Hardy & greenhouse evergreen shrubs. Orn. foliage. *Nat.* Europe (Britain), China, U.S. America, N. America, Japan, Canary Islands. *Int.* (foreign species) 1726. *Ht.* 6 to 20 ft. *Species* cultivated, 6 hardy evergreen, 1 hardy deciduous, 1 greenhouse. *Flowers*, greenish; May & June. *Berries*, red; autn. & winter. *Leaves*, dark green or variegated with white or yellow. *Culture of hardy species: Soil*, ordinary. *Position*, well drained shrubberies, banks, exposed slopes, etc., or near the sea. *Plant*, May or Sept. *Prune*, Sept. or Ap. *Hedge culture: Soil*, ordinary, trenched two spits deep & 3 ft. wide. *Plant* hollies (18 in. high) 18 in. apart, May or Sept. *Trim* into shape Ap. & Sept. *Pot culture: Soil*, ordinary. *Position*, window boxes, cold corridors, balconies & greenhouses. *Pot*, Sept. *Water* freely Mar. to Oct., moderately afterwards. *Heat* unnecessary. *Culture of greenhouse species: Soil*, two parts loam, one part peat & sand. *Position*, well drained pots exposed to full light. *Pot*, Mar. *Prune*, Feb. *Water* freely in sum., occasionally other times. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 50°. *Propagate* common species by seed (berries) gathered in Nov., buried in sand until following Oct., then sown 1 in. deep & 1 in. apart in ordinary soil outdoors, transplanting seedlings when two years old; variegated kinds by budding on common species in Aug.; grafting in Mar.

Illawarra Pine-tree (*Podocarpus spinulosa*)—see Podocarpus.

Illicium (Star Anise-tree, Star Aniseed-tree, Aniseed-tree of Florida, Poison-Bay of Alabama, Red-flowered Aniseed-tree).—*Ord.* Magnoliaceæ. Half-hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* China, Japan, Florida. *Int.* 1771. *Ht.* 3 to 8 ft. *Species* cultivated, 3. *Flowers*, red, yellow, white, fragrant; Ap. to Aug. *Leaves*, oblong; emitting odour of aniseed. *Compost*, equal parts sandy loam & peat. *Position*, sheltered shrubberies or against south walls S. of England, in pots in cold greenhouses or conservatories N. of England. *Plant* outdoors, Ap., Sept. or Oct. *Pot*, Oct. *Water* plants in pots freely in sum., moderately in winter. *Prune* into shape Ap. or May. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted in well drained pots of sandy soil under bell-glass in temp. of 55° to 65°, May to Aug.

Imantophyllum (Thong Lily, Natal Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. Evergreen. *Nat.* Natal. *Int.* 1854. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties several. *Flowers*, reddish orange-yellow; Feb. to July. *Compost*, two parts good loam, one part decayed manure & sand. *Position*, well drained pots, sunny, close to glass in greenhouse. *Pot*, Feb. *Water* freely Mar. to July, very little afterwards. *Syringe* from Mar. to July. *Repotting* necessary every three or four years only. *Temp.*, Sept. to Feb. 55° to 65°; Feb. to Sept. 65° to 75°. *Top-dress* with compost of fibrous loam, leaf-mould, charcoal, & bone dust in Feb. or Mar. *Propagate* by seeds sown in light soil in temp. 75°, Mar.; division of roots at potting time.

Imbricated False Dragon's-head (*Physostegia imbricata*)—see Physostegia.

Immortelle-flower (*Helichrysum orientale*)—see Helichrysum.

Imou Pine-tree (*Dacrydium cupressinum*)—see Dacrydium.

Impatiens (Balsam, Hardy Indian Balsam, Yellow Balsam, Sultan's Balsam, Zanzibar Balsam).—*Ord.* Geraniaceæ. Stove, greenhouse & hardy annuals & perennials. *Nat.* Asia, India, Europe (Britain), Zanzibar. *Int.* (foreign species) 1596. *Ht.* 2 to 10 ft. *Species* cultivated, 3 stove perennials, 1 greenhouse annual, 4 hardy annuals. *Flowers*, various; all the year round. *Culture of stove species: Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light part of stove Sept. to May, greenhouse June to Sept. *Pot*, Feb. or Mar. *Water* moderately Mar. to Sept., occasionally afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to June, 65° to 75°. *Prune* into shape, Feb. *Culture of Balsam: Sow* seeds $\frac{1}{8}$ in. deep in light soil in temp. 65° to 75° in Mar. or Ap. *Transplant* seedlings singly into 2-in. pots when 1 in. high. *Compost*, equal parts loam, leaf-mould & sand. *Position*, near glass in greenhouse, not shaded. *Transfer* from 2-in. into 5-in., & thence into 6 & 8-in. pots. *Apply* liquid manure daily to plants showing flower. *Water* freely. *Temp.*, Mar. to June, 55° to 65°. *Outdoor culture: Plant*, June. *Soil*, ordinary. *Position*, sunny borders. *Culture of annual species: Sow* seeds $\frac{1}{8}$ in. deep in Ap. where plants are to grow. *Soil*, ordinary. *Position*, sunny borders. *Thin* seedlings to 6 in. apart when 1 in. high. *Propagate* stove species by seeds sown $\frac{1}{16}$ in. deep in light rich soil in temp. 65° in Mar.; by cuttings of side shoots inserted in small pots of light sandy soil in temp. 75° Mar. to Aug.

Imperati's Crocus (*Crocus Imperati*)—see Crocus.

Imperati's Snowdrop (*Galanthus Imperati*)—see Galanthus.

Imperforate St. John's-wort (*Hypericum dubium*)—see Hypericum.

Imperial Dahlia (*Dahlia imperialis*)—see Dahlia.

Imperial Wax-flower (*Hoya imperialis*)—see Hoya.

Incense-bearing Mexican Cypress (*Cupressus thurifera*) — see Cupressus.

Incense Juniper (*Juniperus religiosa*)—see Juniperus.

Incense Thyme (*Thymus thurifera*)—see Thymus.

Incomparable Daffodil (*Narcissus incomparabilis*)—see Narcissus.

Incurved-leaved Saxifrage (*Saxifraga incurvifolia*) — see Saxifraga.

India-rubber Plant (*Ficus elastica*)—see Ficus.

India-rubber Tree (*Ficus elastica*)—see Ficus.

Indian Azalea (*Azalea indica*)—see Azalea.

Indian Autumn Daffodil (*Pancratium indica*)—see Pancratium.

Indian Corn (*Zea Mays*)—see Zea.

Indian Cotton-plant (*Gossypium indicum*)—see Gossypium.

Indian Cress (*Tropæolum majus*)—see Tropæolum.

Indian Crocus (*Pleione maculata*)—see Pleione.

Indian Cups (*Sarracenia purpurea*)—see Sarracenia.

Indian Currant (*Symphoricarpus vulgaris*)—see Symphoricarpus.

Indian Daphne (*Daphne indica*)—see Daphne.

Indian Eye (*Dianthus plumarius*)—see Dianthus.

Indian Fig Cactus (*Opuntia vulgaris*)—see Opuntia.

Indian Fig-tree (*Opuntia vulgaris*)—see Opuntia.

Indian Forget-me-not (*Quamoclit vulgaris*)—see Quamoclit.

Indian Ginger (*Asarum canadense*)—see Asarum.

Indian Grass (*Sorghum nutans* & *Molinia cærulea*)—see Sorghum & Molinia.

Indian Hawthorn (*Cratægus indica*)—see Cratægus.

Indian Heliotrope (*Heliotropium indicum*)—see Heliotropium.

Indian Ivy (*Monstera deliciosa*)—see Monstera.

Indian Kale (*Caladium nymphæifolium* & *C. sagittæfolium*)—see Caladium.

Indian Lilac (*Lagerstrœmia indica*)—see Lagerstrœmia.

Indian Lotus (*Nymphæa pubescens*)—see Nymphæa.

Indian Mallow (*Abutilon globiflorum*)—see Abutilon.

Indian Moss (*Saxifraga hypnoides*)—see Saxifraga.

Indian Physic (*Gillenia trifoliata* & *Magnolia Fraseri*)—see Gillenia & Magnolia.

Indian Pimpernel (*Anagalis indica*)—see Anagalis.

Indian Pink (*Dianthus chinensis*)—see Dianthus.

Indian Plantain of North America (*Cacalia reniformis*)—see Cacalia.

Indian Poke (*Veratrum viride*)—see Veratrum.

Indian Reed (*Canna indica*)—see Canna.

Indian Rice (*Zizania aquatica*)—see Zizania.

Indian Saffron-plant (*Curcuma Zedoari*)—see Curcuma.

Indian Shamrock (*Trillium latifolium*)—see Trillium.

Indian Shell-flower (*Alpinia nutans*)—see Alpinia.

Indian Shot (*Canna indica*)—see Canna.

Indian Strawberry (*Fragaria indica*)—see Fragaria.

Indian Tobacco-plant (*Lobelia inflata*)—see Lobelia.

Indian Turnip (*Arum dracontium*)—see Arum.

Indian Yam (*Dioscorea trifida*)—see Dioscorea.

Indigo (*Indigofera tinctora*)—see Indigofera.

Indigofera (Indigo, Australian Indigo-plant, Dyer's Indigo-plant, Purple-flowered Indigo-plant).—*Ord.* Leguminosæ. Stove, greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* Australia, China, India, E. Indies. *Int.* 1731. *Ht.* 2 to 6 ft. *Species* cultivated, 2 stove, 6 greenhouse, 1 hardy. *Flowers*, red, rose, purple, pink; Mar. to Sept. *Leaves*, feather-shaped. *Culture of stove species: Compost*, equal parts turfy loam, leaf-mould & sand. *Position*, well drained pots or beds. *Pot or plant*, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Culture of greenhouse species: Compost*, as above. *Position*, large well-drained pots or in beds, with shoots trained up pillars or against walls. *Pot or plant*, Mar. *Prune* into shape, Mar, or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Stand* plants in sunny place outdoors June to Sept. *Culture of hardy species: Compost*, equal parts loam, leaf-mould & peat. *Position*, well drained bed or border, with shoots trained against S. wall. *Plant*, Oct. to Feb. *Prune* moderately after flowering, removing those shoots only that have flowered. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of sandy soil in temp. 75° to 85° in Feb. or Mar.; cuttings of firm young shoots 2 to 3 in. long inserted in pots of sandy peat under bell-glass in temp. 65° to 75° May to Sept.

Indigo-plant (*Baptisia tinctoria*)—see Baptisia.

Indigo-weed (*Baptisia tinctoria*)—see Baptisia.

Inflated Bladder-wort (*Utricularia inflata*)—see Utricularia.

Intermediate Crocus (*Crocus medius*)—see Crocus.

Intermediate Larkspur (*Delphinium intermedium*)—see Delphinium.

Intermediate Pitcher-plant (*Nepenthes intermedia*)—see Nepenthes.

Intermediate Red-root (*Ceanothus intermedius*)—see Ceanothus.

Intermediate Torch Lily (*Tritoma media*)—**see Tritoma.**

Inula (Flea-bane, Georgian Flea-bane, Elecampane, Elf Dock, Horse Elder, Christ's-eye, Hoary Fleabane).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), India, Caucasus. *Int.* (foreign species) 1759. *Ht.* 2 to 4 ft. *Species* cultivated, 4. *Flowers*, yellow; June to Sept. *Soil*, ordinary rich. *Position*, moist sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Topdress* with well decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in partially shady border outdoors in Ap.; division of roots, Oct. or Mar.

Involute-flowered St. John's-wort (*Hypericum involutum*)—see Hypericum.

Ionopsidium (Carpet-plant, Violet-flowered Cress).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Portugal. *Int.* 1845. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, lilac, white, violet; May to Sept. *Outdoor culture: Soil*, ordinary. *Position*, ledges of rockeries or as edgings to flower beds. *Sow* seeds where plants are to grow in Ap., just covering with fine mould. *Pot culture: Compost*, equal parts loam, leaf-mould & sand. *Position*, shady window, cold frame, or greenhouse. *Sow* seeds $\frac{1}{16}$ in. deep in 5-in. pot well drained and filled with above compost, in Ap. or Sept. *Thin* seedlings to 1 in. apart. *Water* moderately. *Apply* liquid manure occasionally when flower buds show.

Ionopsis.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Brazil. *Int.* 1865. *Ht.* 3 to 6 in. *Species* cultivated, 2. *Flowers*, white, rose, pink; May to Mar. *Compost*, sphagnum moss. *Position*, attached to blocks of wood suspended from roof. *Re-block*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Syringe* twice daily Feb. to Oct. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plants at re-blocking time.

Ipomæa (American Bell-bind, Moon Creeper, Morning Glory, Ivy-leaved Cypress Vine, Star Glory).—*Ord.* Convolvulaceæ. Stove, greenhouse & hardy perennial & annual climbers; perennials evergreen & deciduous. *Nat.* Peru, E. & W. Indies, U.S. America, Tropics, Panama, Mexico. *Int.* 1597. *Ht.* 6 to 20 ft. *Species* cultivated, 20 stove perennials, 2 stove annuals, 4 greenhouse perennials, 1 hardy perennial, 2 half-hardy & 1 hardy annual. *Flowers*, various; all the year round. *Culture of stove species: Compost*, equal parts fibrous loam, leaf-mould, decayed manure & silver sand. *Position*, pots, beds, or borders in stove; shoots trained up roof, or on trellises. *Pot or plant*, Feb., Mar. or Ap. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Water* freely Ap. to Sept., moderately afterwards. *Prune* straggly growths into shape, Feb. *Annuals*, sow three seeds ⅛ in. deep in a 2½-in. pot in temp. 65° in Mar. *Transfer* seedlings when 2 in. high into 5-in. pots. *Train* shoots to trellis or sticks. *Culture of greenhouse species: Compost*, as above. *Position*, pots or beds in greenhouse; shoots trained up rafter or trellis. *Pot or plant*, Mar. *Prune*, Feb. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Water* freely in sum., moderately other times. *Culture of half-hardy annuals: Soil*, light rich. *Sow* seeds ⅛ in. deep in pots in temp. 65° in Mar. *Transfer* seedlings to cold frame in May. *Plant*, June. *Position*, sunny walls or borders, shoots trained to trellis or to sticks. *Culture of hardy annual species. Soil*, ordinary. *Position*, sunny borders; shoots trained to trellis or sticks. *Sow* seed ¼ in. deep where plants are to grow, in Ap. *Culture of hardy perennial species: Soil*, ordinary. *Position*, sunny walls, fences or arbours. *Plant*, Oct. or Nov. *Propagate* annual species by seeds as above; perennials by cuttings of side shoots inserted in sandy peat under bell-glass in temp. 75° to 85°, Mar. to Aug., or grafting in Mar.

Ipomopsis (Standing Cypress).—*Ord.* Polemoniaceæ. Hardy biennials. *Nat.* California. *Int.* date unknown. *Ht.* 9 to 15 in. *Species* cultivated, 2. *Flowers*, scarlet, pink; May to Sept. *Soil*, ordinary. *Position*, warm sheltered beds or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in pots of light soil in temp. of 65° in Mar., planting seedlings outdoors in May or June; or similar depth outdoors where plants are required to grow in Sept.

Ipsea.—*Ord.* Orchidaceæ. Stove terrestrial orchid. *Nat.* Ceylon. *Int.*, date unknown. *Ht.* 9 to 15 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; Nov. to Feb. *Compost*, equal parts loam & leaf-mould. *Position*, light part of stove. *Pot*, Feb. or Mar., in well drained pots. *Water* freely Mar. to Aug., moderately Aug. to Oct., very little afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by division of pseudo-bulbs after flowering.

Iraiba Palm (*Cocus oleracea*)—see Cocus.

Iresine (Blood-leaf).—*Ord.* Amarantaceæ. Stove & half-hardy orn. foliaged plants. *Nat.* Brazil, Ecuador. *Int.* 1864. *Ht.* 12 to 15 in. *Species* cultivated, 2; varieties, several. *Leaves*, heart & lance-shaped; deep blood-red, carmine, green, golden, crimson. *Pot culture: Compost*, equal parts peat, loam, leaf mould & sand. *Position*, sunny part of stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Outdoor culture: Soil*, ordinary. *Position*, edgings to sunny beds or borders. *Plant*, June. *Lift*, repot, & remove to stove in Sept. *Pinch* off points of shoots frequently to induce bushy growth. *Propagate* by cuttings of young shoots inserted in pots or pans of light sandy soil in temp. of 65° to 75°, Feb., Mar., Ap., Sept. or Oct.

Iris (Flag, Rainbow-flower, Lady's Calamus, Blue Curls, Orrice, Orris-root-plant, Fleur de Luce, Jacob's Sword, Water Flag, Pyrenean Flag, Lord Howe's Wedding Flower).—*Ord.* Iridaceæ. Hardy herbaceous perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Asia, U.S. America, China, Japan, India, N. America, N. Africa, Persia. *Int.* (foreign species) 1573. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 60 rhizomatous (creeping stemmed), 10 bulbous rooted; varieties innumerable. *Flowers*, various, fragrant; Jan. to Oct. *Culture of rhizomatous species: Soil*, sandy loam for I. cristata, iberica, pumila, Susiana, tectorum, tridentata, virginica, aurea, & ochroleuca; loam & peat for I. Kæmpferi, fulva, hexagona, setosa, & versicolor; ordinary for biflora, fœtidissima, germanica, pallida, Monnieri, pseudo-acorus, ruthenica, siberica, spuria, graminea, stylosa, tuberosa, variegata, aphylla, chamæiris, flavescens, florentina, & squalens. *Position*, shady near water for fœtidissimus & pseudo-acorus, sunny dryish beds or borders for I. alata, biflora, cristata, germanica, histrio, reticulata, iberica, pallida, ruthenica, spuria, graminea, Susiana, tridentata, tuberosa, variegata, aphylla, aurea, ochroleuca, & chamæiris; sunny & moist beds for fœtidissima, Kæmpferi, Monneiri, pseudo-acorus, siberica, tectorum, virginica, hexagona & setosa. *Plant*, Sept. to Nov. or Mar.; rhizomes just beneath surface. *Top-dress* with well decayed cow manure in Oct. *Mulch* with similar material in Mar. *Apply* weak liquid manure to established plants in sum. *Annual* or periodical lifting unnecessary; best undisturbed. *Culture of bulbous-rooted species: Soil*, ordinary for I. alata; sandy loam for I. pumila, persica, xiphion, & xiphioides; loam & peat for I. histrio & reticulata. *Position*, sunny dryish beds or borders. *Plant* 3 in. deep & 6 in. apart, Sept. to Nov. *Protect* in winter with covering of leaf-mould or cocoanut-fibre refuse. *Lift* only when bulbs are not growing satisfactorily. *Top-dress* in Mar. with decayed manure. *Pot culture of bulbous species: Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, cold frame until flowers appear, then remove to greenhouse. *Pot*, Oct., placing five bulbs 2 in. deep in a 5-in. pot. *Water* moderately from time growth begins until flowers fade, then keep quite dry. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in cold frame in autn.; by offsets removed in Oct. or Nov.; division of creeping stems in Sept. or Oct.

Irish Butter-wort (*Pinguicula grandiflora*)—see Pinguicula.

Irish Furze (*Ulex strictus*)—see Ulex.

Irish Heath (*Dabeocia polifolia* & *Menziesia polifolia*)—see Dabeocia & Menziesia.

Irish Ivy (*Hedera helix canariensis* & *Hedera helix hibernica*)—see Hedera.

Irish Juniper (*Juniperus communis hibernica*)—see Juniperus.

Irish Lady's Tresses (*Spiranthes gemmipara*)—see Spiranthes.

Irish Polypody (*Polypodium hibernicum*)—see Polypodium.

Irish Rose (*Rosa hibernica*)—see Rosa.

Irish Spurge (*Euphorbia hibernica*)—see Euphorbia.

Irish Yew (*Taxus baccata fastigiata*)—see Taxus.

Isabella Grape (*Vitis labrusca*)—see Vitis.

Isle of Bourbon Tea-plant (*Angræcum fragrans*) – see Angræcum.

Ismene (Peruvian Daffodil).—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous plants. *Nat.* Chili, Peru, Ecuador, Brazil. *Int.* 1796. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, white, fragrant; Feb. to May. *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly Ap. to Sept., moderately Sept to Dec., keep quite dry Dec. to Mar. *Apply* liquid manure once or twice a week May to Sept. *Temp.* for stove species, 70° to 80° Mar. to Sept., 55° to 65° Sept. to Mar.; greenhouse species, 55° to 65° Ap. to Sept., 45° to 50° Sept. to Ap. *Propagate* by offsets removed from old bulbs in Mar. and treated as above.

Isolepis (River-side Club Grass).—*Ord.* Cyperaceæ. Greenhouse perennial rush. Orn. foliage. *Nat.* Tropics. *Int.*, date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Leaves*, slender, round, drooping, deep green. *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, small pots arranged along front of staging, or in hanging baskets. *Pot*, Feb. or Mar. *Water* abundantly Mar. to Oct., moderately other times. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Propagate* by division of plants in Mar.

Isopyrum.—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. Orn. foliage. *Nat.* Europe. *Int.* 1759. *Ht.* 10 to 15 in. *Species* cultivated, 1. *Flowers*, white; Mar. to Ap. *Foliage* finely divided like that of maidenhair fern. *Soil*, ordinary. *Position*, sunny or shady rockery, bed or border. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in Ap. or May; division of roots in Oct. or Nov.

Isotoma.—*Ord.* Campanulaceæ. Greenhouse & half-hardy herbaceous perennials. *Nat.* Australia, W. Indies. *Int.* 1752. *Ht.* 8 to 12 in. *Species* cultivated, 2; variety, 1. *Flowers*, blue, white; June to Oct. *Pot culture: Compost*, two parts sandy loam, one part well decayed manure & sand. *Position*, well drained pots in greenhouse Sept. to June; in sunny cold frame June to Sept. *Pot*, Mar. or Ap. *Water* freely Ap. to Sept., moderately other times. *Apply* liquid manure once or twice weekly when flower spikes show. *Outdoor culture: Soil*, ordinary rich. *Position*, sunny beds or borders. *Plant*, June. *Lift* & place in pots in greenhouse for the winter in Sept. *Propagate* by cuttings inserted in light sandy soil in temp. of 65° to 75° in Feb., Mar. or Ap.

Italian Alkanet (*Anchusa italica*)—see Anchusa.

Italian Corn-salad (*Valerianella criocarpa*)—see Valerianella.

Italian Cypress (*Cupressus sempervirens*) –see Cupressus.

Italian Daisy (*Bellis hybrida*)—see Bellis.

Italian Iris (*Iris italica*)—see Iris.

Italian Maple (*Acer opulus*)—see Acer.

Italian May (*Spiræa filipendula*)—see Spiræa.

Italian Mulberry-tree (*Morus alba italica*)—see Morus.

Italian Oak (*Quercus esculus*)—see Quercus.

Italian Periwinkle *Vinca acutiloba*)—see Vinca.

Italian Pimpernel (*Anagallis Monelli*)—see Anagallis.

Italian Senna-plant (*Cassia obovata*)—see Cassia.

Italian Starwort (*Aster Amellus*)—see Aster.

Italian Stone Pine-tree (*Pinus pinea*)—see Pinus.

Italian Sun-rose (*Helianthemum italicum*)—see Helianthemum.

Italian Yellow Jasmine (*Jasminum humile*)—see Jasminum.

Itea (Virginian Willow).—*Ord.* Saxifragaceæ. Hardy deciduous shrub. Orn. foliage & flowering *Nat.* N. America. *Int.* 1744. *Ht.* 5 to 6 ft. *Species* cultivated, 1. *Flowers*, white; July to Oct. *Soil*, peaty. *Position*, moist sheltered shrubberies. *Plant*, Oct. to Feb. *Prune* moderately after flowering. *Propagate* by seeds sown ¼ in. deep in sandy soil outdoors in Ap.; suckers removed in Oct. or Nov.; layering shoots in July or Aug.

Ivory Eryngo (*Eryngium eburneum*)—see Eryngium.

Ivory Thistle (*Silybum eburneum*)—see Silybum.

Ivy (*Hedera helix*)—see Hedera.

Ivy Grape-vine (*Vitis indivisa*)—see Vitis.

Ivy Gum-plant (*Hedera helix*)—see Hedera.

Ivy Saxifrage (*Saxifraga cymbalaria*)—see Saxifraga.

Ivy-leaved Campanula (*Campanula hederacea*)—see Campanula.

Ivy-leaved Cypress-vine (*Ipomæa hederacea coccinea*) — see Ipomæa.

Ivy-leaved Groundsel (*Senecio macroglossus*)—see Senecio.

Ivy-leaved Harebell (*Campanula hederacea*)—see Campanula.

Ivy-leaved Toad-flax (*Linaria cymbalaria*)—see Linaria.

Ivy-tree (*Panax Colensoi*)—see Panax.

Ivy-wort (*Linaria cymbalaria*)—see Linaria.

Ixia (African Corn Lily).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* S. Africa. *Int.* 1744. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 15; varieties many. *Flowers*, white, yellow, pink, red, green, lilac, rose, orange; fragrant; Ap. to Aug. *Outdoor culture: Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow manure. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar. 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Ixia Lily (*Ixiolirion tartaricum*)—see Ixiolirion.

Ixiolirion (Ixia Lily, Ledebour's Ixia Lily, Mountain Ixia Lily, Pallas's Ixia Lily, Tartarian Ixia Lily).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plants. *Nat.* Central Asia. *Int.* 1844. *Ht.* 12 to 18 in. *Species* cultivated, 2; varieties several. *Flowers*, blue, white; May to Sept. *Soil*, light sandy loam. *Position*, well drained sunny border at foot of S. wall. *Plant* bulbs 3 in. deep & 4 in. apart in Mar. *Mulch* surface of bed with cow manure in Ap. *After flowering*, cover with bell-glass or hand-light to ensure thorough ripening of bulbs. *Lift* bulbs in Sept. & store in dry sand in cool, frost-proof place till planting time. *Propagate* by offsets removed at any time, planted & treated as advised for normal bulbs.

Ixora (West Indian Jasmine).—*Ord.* Rubiaceæ. Stove flowering shrubs. Evergreen. *Nat.* India, E. Indies, Madagascar, China, Ceylon, Andaman Islands. *Int.* 1690. *Ht.* 3 to 6 ft. *Species* cultivated, 15; varieties many. *Flowers*, white, orange, red, scarlet, crimson, salmon, fragrant; Ap. to Oct. *Compost*, two parts good fibrous peat, one part fibrous loam & silver sand. *Position*, shady part of stove whilst growing, light situation when at rest. *Pot*, Feb. or Mar.; good drainage indispensable. *Prune* into shape in Feb. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* twice daily Mar. to Aug. *Apply* liquid manure once or twice a week to healthy plants in flower. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted singly in small pots in sandy peat under bell-glass in temp. 75° to 85°, Mar. to May.

Jaborosa.—*Ord.* Solanaceæ. Hardy herbaceous perennial. *Nat.* Buenos Ayres. *Int.* 1831. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, white, tubular, fragrant; May to Sept. *Soil*, rich loamy. *Position*, well drained border at base of S. wall. *Plant*, Oct. or Mar. *Protect* in winter with covering of ashes or litter. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in well drained pots in temp. 55° to 65° in Mar. or Ap.; cuttings of young shoots inserted in sandy soil under bell-glass, hand-light, or in cold frame, July to Sept.; division of creeping stems in Mar. or Ap.

Jaca (*Artocarpus integrifolia*)—see Artocarpus.

Jacaranda (Mimosa-leaved Ebony-tree, Green Ebony-tree).—*Ord.* Bignoniaceæ. Stove evergreen trees. Flowering & orn. foliage. *Nat.* Brazil, Mexico. *Int.* 1724. *Ht.* 1 to 20 ft. *Species* cultivated, 2. *Flowers*, blue, purple, borne in terminal pyramidal panicles, on large plants only; June to Sept. *Leaves*, fern-like, downy, very elegant. *Compost*, equal parts peat, fibry loam & silver sand. *Position*, well drained pots in light part of plant stove Sept. to Ap., sunny place outdoors July to Sept. *Pot*, Feb. to Mar. *Prune* into shape, Feb. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to July 70° to 80°. *Plants* form decorative specimens when 1 to 3 ft. high; flowering specimens when grown as standards, 10 to 15 ft. high. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy peat in well drained pots under bell-glass in temp. of 75° to 85°, Feb. to June; cuttings of firm shoots inserted in sandy peat under bell-glass in temp. of 75°, June to Sept.

Jacinth Hyacinth (*Hyacinthus orientalis*)—see Hyacinthus.

Jack-go-to-bed-at-noon (*Ornithogalum umbellatum*)—see Ornithogalum.

Jack-in-prison (*Nigella damascena*)—see Nigella.

Jack-in-the-green (*Primula vulgaris var.*)—see Primula.

Jack-tree (*Artocarpus integrifolia*)—see Artocarpus.

Jack-of-the-buttery (*Sedum acre*)—see Sedum.

Jackman's Clematis (*Clematis Jackmanni*)—see Clematis.

Jacobea Lily (*Sprekelia formosissima* & *Amaryllis formosissima*)—see Sprekelia & Amaryllis.

Jacobinia.—*Ord.* Acanthaceæ. Stove flowering plants. *Nat.* S. America, Mexico. *Int.* 1770. *Ht.* 1 to 5 ft. *Species* cultivated, 4. *Flowers*, scarlet, orange, yellow, pink; Dec. to Feb. & Aug. to Oct. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*, Mar. or Ap. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to June 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to July.

Jacob's-ladder (*Polemonium cæruleum*)—see Polemonium.

Jacob's-staff (*Verbascum Thapsus*)—see Verbascum.

Jacob's-sword (*Iris pseudo-acorus*)—see Iris.

Jacob's-rod (*Asphodelus luteus*)—see Asphodelus.

Jacoby (*Senecio elegans*)—see Senecio.

Jacquemontia.—*Ord.* Convolvulaceæ. Stove flowering & twining plants. Evergreen. *Nat.* Bogota, Mexico. *Int.* 1808. *Ht.* 3 to 6 ft. *Species* cultivated, 2. *Flowers*, blue; June to Sept. *Compost*, equal parts fibrous loam, leaf-mould, decayed manure & sand. *Position*, pots, beds or borders in stove; shoots trained up roof or on trellises. *Pot or plant*, Feb., Mar. or Ap. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Water* freely Ap. to Sept., moderately afterwards. *Prune* straggly growths into shape, Feb. *Propagate* by cuttings of side shoots inserted in sandy peat under bell-glass in temp. 75° to 85°, Mar. to Aug.; grafting in Mar.

Jaggery Palm (*Caryota urens*)—see Caryota.

Jalap-plant (*Mirabilis jalapa*)—see Mirabilis.

Jalap-hop (*Ipomœa batatoides*)—see Ipomæa.

Jamaica Allspice (*Eugenia pimenta*)—see Eugenia.

Jamaica Bloodwood (*Gordonia hæmatoxylon*)—see Gordonia.

Jamaica Honeysuckle (*Passiflora laurifolia*)—see Passiflora.

Jamaica Mignonette (*Lawsonia alba*)—see Lawsonia.

Jamaica Mountain Sage (*Lantana aculeata*)—see Lantana.

Jamaica Pepper (*Eugenia pimenta*)—see Eugenia.

Jamaica Sarsaparilla-plant (*Smilax officinalis*)—see Smilax.

Jamaica Senna-plant (*Cassia marginata*)—see Cassia.

Jamaica Snapdragon (*Ruellia tuberosa*)—see Ruellia.

Jamaica Tree Fern (*Dicksonia dissecta*)—see Dicksonia.

Jamaica Wood-sorrel (*Begonia nitida*)—see Begonia.

Jamaica Zebra-wood (*Eugenia fragrans*)—see Eugenia.

Jamestown-weed (*Datura stramonium*)—see Datura.

James's Evening Primrose (*Œnothera Jamesi*)—see Œnothera.

James's Monkey-flower (*Mimulus Jamesi*)—see Mimulus.

Jam Furze (*Ulex nanus*)—see Ulex.

Japan Allspice (*Chimonanthus fragrans*)—see Chimonanthus.

Japan Cherry (*Cerasus japonica & Prunus japonica*)—see Cerasus & Prunus.

Japan Honeysuckle (*Lonicera japonica*)—see Lonicera.

Japan Hydrangea (*Hydrangea japonica*)—see Hydrangea.

Japan Juniper (*Juniperus japonica*)—see Juniperus.

Japan Laurel (*Aucuba japonica*)—see Aucuba.

Japan Lily (*Lilium lancifolium*)—see Lilium.

Japan Pink (*Dianthus Heddewigi*)—see Dianthus.

Japanese Andromeda (*Andromeda japonica*)—see Andromeda.

Japanese Arbor-vitæ (*Biota orientalis & Thuia japonica*)—see Biota & Thuia.

Japanese Barberry (*Berberis japonica*)—see Berberis.

Japanese Box-tree (*Euonymus japonicus radicans*)—see Euonymus.

Japanese Celandine (*Stylophorum japonicum*)—see Stylophorum.

Japanese Climbing Bramble (*Rubus phœnicolasius*)—see Rubus.

Japanese Climbing Fern (*Lygodium scandens*)—see Lygodium.

Japanese Cypress (*Retinospora obtusa*)—see Retinospora.

Japanese Daphne (*Daphne japonica*)—see Daphne.

Japanese Groundsel (*Senecio japonicus*)—see Senecio.

Japanese Hare's-foot Fern (*Davallia Mariesi*)—see Davallia.

Japanese Lady's-slipper (*Cypripedium japonicum*)—see Cypripedium.

Japanese Maize (*Zea japonica*)—see Zea.

Japanese Maple (*Acer palmatum*)—see Acer.

Japanese Monk's-hood (*Aconitum japonicum*)—see Aconitum.

Japanese Oak (*Quercus glabra*)—see Quercus.

Japanese Ostrich Fern (*Struthiopteris japonica*)—see Struthiopteris.

Japanese Plum-tree (*Prunus japonica*)—see Prunus.

Japanese Primrose (*Primula japonica*)—see Primula.

Japanese Privet (*Ligustrum japonicum*)—see Ligustrum.

Japanese Rose (*Camellia japonica* & *Rosa rugosa*)—see Camellia & Rosa.

Japanese St. John's-wort (*Hypericum japonicum*) — see Hypericum.

Japanese Skull-cap (*Scutellaria japonica*)—see Scutellaria.

Japanese Snow-flower (*Deutzia gracilis*)—see Deutzia.

Japanese Speedwell (*Veronica longifolia subsessilis*)—see Veronica.

Japanese Spindle-tree (*Euonymus japonicus*)—see Euonymus.

Japanese Wind-flower (*Anemone japonica*)—see Anemone.

Japanese Yew-tree (*Taxus japonica*)—see Taxus.

Jasione (Sheep's - bit Scabious). — *Ord.* Campanulaceæ. Hardy annual & herbaceous perennial plants. *Nat.* Europe (Britain). *Int.* (foreign species) 1787. *Ht.* 6 to 12 in. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, blue, white; May to Sept. *Culture of annual species: Soil*, ordinary. *Position*, well drained sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in Ap. or Sept. where plants are to grow. *Culture of perennial species: Soil*, good light loam. *Position*, sunny well drained borders. *Plant*, Oct. or Mar. *Cut* down flower stems, Oct. *Mulch* with decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil outdoors, Ap. to Sept.; division of roots, Oct. or Mar.

Jasmine (*Jasminum officinale*)—see Jasminum.

Jasmine-Box (*Phillyrea angustifolia*)—see Phillyrea.

Jasmine Nightshade (*Solanum jasminoides*)—see Solanum.

Jasminum (Jasmine, Jessamine, Jonquil-scented Jasmine, Yellow Azorean Jasmine, White Azorean Jasmine, Common Yellow-flowered Jasmine, Common White Jasmine, Spanish Jasmine, Large-flowered Jasmine, Italian Jasmine, Winter-flowering Jasmine, Double-flowered Jasmine, Silver-leaved Jasmine, Golden-leaved Jasmine, Yellow Nepaul Jasmine, Austrian Jasmine, White-flowered Indian Jasmine).—*Ord.* Oleaceæ. Stove, greenhouse & hardy climbing & trailing flowering plants. Evergreen & deciduous. *Nat.* (J. officinale) India, Persia; (J. nudiflorum) China; (J. sambac) India; (J. grandiflorum) Himalayas; others, Azores, S. Europe, Madeira. *Int.* (J. officinale) 1548; (J. sambac) 1665; (J. grandiflorum) 1629; (J. nudiflorum) 1844. *Ht.* 3 to 20 ft. *Species* cultivated, 3 stove, 4 greenhouse, 6 hardy; varieties several, some variegated. *Flowers*, yellow, white, fragrant; sum. & winter. *Culture of stove species: Compost*, equal parts loam, peat & leaf-mould, with little sand. *Position*, well drained pots, with shoots trained to trellis or up rafters, or in beds or borders with shoots trained up walls or rafters. *Pot or plant*, Feb. or Mar. *Prune* moderately, Feb. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Syringe* daily from Mar. to Aug. *Culture of greenhouse species: Compost* as above. *Position*, beds or borders, with shoots trained up rafters or walls, or well drained pots in light part of greenhouse Sept. to June, sunny place outdoors June to Sept. *Pot or plant*, Feb. or Mar. *Prune* slightly, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to June 55° to 65°. *Culture of hardy species: Soil*, ordinary rich. *Position*, well drained borders at base of S. or S.W. walls. *Plant*, Oct., Nov., Feb. or Mar. *Prune* moderately after flowering, removing shoots that have flowered only. *Propagate* stove & greenhouse species by cuttings of firm shoots, inserted in well drained pots of sandy peat under bell-glass in temp. of 65° to 75°, Mar. to Sept.; hardy species by cuttings of shoots 3 to 6 in. long inserted in well drained pots of sandy soil in cold frame or in sheltered borders outdoors Sept. to Dec.; layering shoots near base of plants sum.; variegated kinds by budding on common species July or Aug.

Jatropha (Belly-ache Bush, Physic-nut, Spurge-nettle). — *Ord.* Euphorbiaceæ. Stove flowering plants. *Nat.* S. America. *Int.* 1696. *Ht.* 1 to 4 ft. *Species* cultivated, 4. *Flowers*, red, scarlet; May to Sept. *Compost*, equal parts fibry loam & peat, with little sand. *Position*, well drained pots, shady part of stove. *Pot*, Feb. & Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Propagate* by cuttings of firm young shoots inserted in well drained pots of sandy soil in temp. of 75° to 85°, Ap. to Aug.

Jaundice-berry (*Berberis vulgaris*)—see Berberis.

Jaundice-tree (*Berberis vulgaris*)—see Berberis.

Java Lemon (*Citrus javanica*)—see Citrus.

Java Primrose (*Primula imperialis*)—see Primula.

Java Smooth Pitcher-plant (*Nepenthes lævis*)—see Nepenthes.

Javanese Rhododendron (*Rhododendron javanicum*)—see Rhododendron.

Jeffersonia (Ground-squirrel Pea, Rheumatism-root, Twin-leaf).—*Ord.* Berberidaceæ. Hardy perennial herb. *Nat.* Tennessee. *Int.* 1792. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, white; Mar. to May. *Soil*, peaty. *Position*, shady edges of rockery or borders. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in cold frame July to Sept.; division of roots Oct. or Mar.

Jersey Elm (*Ulmus campestris*)—see Ulmus.

Jerusalem Artichoke (*Helianthus tuberosus*)—see Helianthus.

Jerusalem Cherry (*Solanum Pseudo-capsicum*)—see Solanum.

Jerusalem Cowslip (*Pulmonaria officinalis*)—see Pulmonaria.

Jerusalem Cross (*Lychnis chalcedonica*)—see Lychnis.

Jerusalem Sage (*Phlomis fruticosus*)—see Phlomis.

Jerusalem Star (*Cerastium tomentosum*)—see Cerastium.

Jessamine (*Jasminum officinalis*)—see Jasminum.

Jessamine-flowered Rhododendron (*Rhododendron jasminiflorum*)—see Rhododendron.

Jesuit's Nut (*Trapa natans*)—see Trapa.

Jew's Apple (*Solanum melongena*)—see Solanum.

Jew's Mallow (*Kerria japonica*)—see Kerria.

Jew's Myrtle (*Ruscus aculeatus*)—see Ruscus.

Job's-Drops (*Coix lachryma*)—see Coix.

Job's-Tears (*Coix lachryma*)—see Coix.

Jockey Grass (*Briza media*)—see Briza.

John Silver-pin (*Papaver rhœas fl.-pl.*)—see Papaver.

Jointed Broom (*Genista saggittalis*)—see Genista.

Jonquil (*Narcissus jonquilla*)—see Narcissus.

Joseph's-Coat (*Amarantus tricolor*)—see Amarantus.

Jove's-Beard (*Anthyllis Barba-Jovis* & *Sempervivum tectorum*)—see Anthyllis & Sempervivum.

Joy-weed (*Alternanthera amœna*)—see Alternanthera.

Judas-tree (*Cercis siliquastrum*)—see Cercis.

Juglans (Walnut-tree, Butter-nut, American Walnut, Black Walnut, Ban-nut-tree, French Nut, Welsh Nut, Cut-leaved Walnut).—*Ord.* Juglandaceæ. Hardy deciduous nut-bearing & orn. foliage trees. *Nat.* (Walnut) Greece, Asia Minor, Persia, Himalaya; (Butter-nut) United States. *Int.* (Walnut) 1592; (Butter-nut) 1656; (Black Walnut) 1656. *Ht.* 10 to 60 ft.

Species cultivated, 3; varieties, 9. *Flowers*, green; Ap. to May. *Nuts*, globular or oval; ripe Sept. & Oct. *Leaves*, feather-shaped, dark green. *Culture of Walnut: Soil*, sandy & calcareous, or stiff loams on gravelly subsoil. *Position*, S. or S.W., open, not shaded by trees or buildings. *Plant*, Oct. or Nov., placing roots 3 to 4 in. below surface of ground previously deeply trenched. *Pruning* unnecessary. *Apply* liquid manure to established trees from June to Oct., or ¼ lb. of superphosphate of lime to the square rod in June. *Gather* nuts for pickling before shell gets too hard. Ripe nuts place in thin layers in dry position till husks fall off, then pack in alternate layers with sand in barrels, casks, or jars sprinkled with salt. *Grafted* or budded trees bear earlier than seedlings. *Culture of orn. leaved species: Soil*, same as above. *Position*, open & sunny. *Plant*, Oct. to Feb. *Propagate* by seed (nuts) sown 2 in. deep in light soil outdoors in Nov., transplanting seedlings following Oct.; budding in Aug.; grafting in Mar.

July-flower (*Dianthus caryophyllus* & *Cheiranthus Cheiri*)—see Dianthus & Cheiranthus.

Jump-up-and-kiss-me (*Viola tricolor*)—see Viola.

June-berry (*Amelanchier canadensis*)—see Amelanchier.

Juncus (Rush).—*Ord.* Junceæ. Hardy herbaceous perennial bog plants. Orn. foliage & flowering. *Nat.* Europe (Britain), Japan. *Int.* (foreign species) 1880. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Inflorescence*, grey, brown, borne in panicles; sum. *Leaves*, green, curiously twisted & variegated. *Soil*, boggy. *Position*, margins of ponds, lakes, cascades. *Plant*, Oct. or Mar. *Propagate* by division of roots Oct. or Mar.

Jungle-nail (*Acacia tomentosa*)—see Acacia.

Juniper (*Juniperus communis*)—see Juniperus.

Juniper Saxifrage (*Saxifraga juniperina*)—see Saxifraga.

Juniperus (Juniper, Barbados Cedar, Bermuda Cedar, Canadian Juniper, Irish Juniper, Alpine Juniper, Caucasian Juniper, Swedish Juniper, Hedge-hog Juniper, Prickly Cedar, Crimean Juniper, Carpet Juniper, Savin Juniper, Spanish Savin, Nepaul Juniper, Insence Juniper, Red Cedar, Golden Red Cedar, Silvery Red Cedar, Weeping Red Cedar, Chinese Juniper, Japanese Juniper, Phœnician Juniper, Shepherd's Juniper).—*Ord.* Coniferæ. Hardy evergreen orn. coniferous trees. *Nat.* Canada, Europe (Britain), Asia Minor, Japan, Afghanistan, India, China, N. America, Mexico. *Int.* (foreign species) 1548. *Ht.* 1 to 50 ft. *Species* cultivated, 21; varieties, about 20. *Habit*, pyramidal or bushy. *Leaves*, needle-shaped, narrow, scale-like, green or variegated. *Soil*, good ordinary. *Position*, open well drained shrubberies or lawns for erect species, rockeries or banks for dwarf species. *Plant*, Sept., Oct. or Nov. *Hedge culture: Soil*, ordinary, trenched two spits deep & 3 ft. wide. *Plant*, Sept. to Nov., 18 in. apart; ht., 1 to 3 ft. *Junipers* form excellent screen trees. *Propagate* by seeds sown ½ in. deep in beds of light soil in cold frame in Ap., transplanting seedlings singly into small pots when 2 in. high & planting outdoors a year afterwards; cuttings of young branches inserted in sandy soil in cold frame or under handlight in Sept. or Oct.

Juno's-Rose (*Lilium candidum*)—see Lilium.

Juno's-Tears (*Verbena officinalis*)—see Verbena.

Jupiter's-Beard (*Anthyllis Barba-Jovis* & *Sempervivum tectorum*)—see Anthyllis & Sempervivum.

Jupiter's-Eye (*Sempervivum tectorum*)—see Sempervivum.

Jupiter's-Flower (*Lychnis Flos-Jovis*)—see Lychnis.

Justicia.—*Ord.* Acanthaceæ. Stove flowering & orn. foliage plants. *Nat.* India, Peru, China. *Int.* 1860. *Ht.* 6 to 13 ft. *Species* cultivated, 4. *Flowers*, pink, violet, lilac; June to Oct. *Leaves*, green or variegated with white. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*, Mar. or Ap. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally May to Aug. to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75° Mar. to July.

Kadsura.—*Ord.* Magnoliaceæ. Half-hardy trailing, flowering shrubs. Evergreen. *Nat.* Japan. *Int.* 1846. *Ht.* 3 to 7 ft. *Species* cultivated, 1; variety, 1; variegated. *Flowers*, white, solitary; June to Sept.; succeeded by scarlet berries. *Soil*, peaty. *Position*, well drained borders against S. or W. walls. *Plant*, Sept., Oct., or Ap. *Prune* straggling shoots moderately in Ap. *Propagate* by cuttings of firm shoots 2 to 3 in. long, inserted in silver sand under bell-glass in cold greenhouse or frame, July to Oct.

Kæmpferia.—*Ord.* Scitaminaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Moulmein, Burmah, Cochin China. *Int.* 1728. *Ht.* 6 to 12 in. *Species* cultivated, about 7. *Flowers*, white, purple, yellow, violet, fragrant; July to Oct. *Leaves*, egg or lance-shaped, green bordered or flaked with white above and purple beneath. *Compost*, equal parts fibrous loam & peat with little silver sand & charcoal. *Position*, well drained pots in light part of stove during growing period; on their sides under staging in dry part of house during resting period. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; keep almost dry afterwards. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar., 55° to 60°. *Growing period*, Feb. to Oct. *Resting period*, Oct. to Feb. *Propagate* by division of root stocks in Feb.

Kæmpfer's Iris (*Iris Kæmpferi*)—see Iris.

Kaffir-bread (*Encephalartos horridus*)—see Encephalartos.

Kalanchoe.—*Ord.* Crassulaceæ. Greenhouse perennial flowering plants. *Nat.* Cape of Good Hope, India, Sierra Leone, Egypt. *Int.* 1781. *Ht.* 18 in. to 2 ft. *Species* cultivated, about 4. *Flowers*, pink, yellow, scarlet, fragrant; Aug. to Mar. *Compost*, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely, Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covered with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Kale (*Brassica oleracea acephala*)—see Brassica.

Kalmia (Calico Bush, American Laurel, Swamp Laurel, Mountain Laurel, Sheep's Poison Laurel).—*Ord.* Ericaceæ. Hardy evergreen flowering shrubs. *Nat.* Canada, Virginia, Carolina, Florida. *Int.* 1734. *Ht.* 1 to 10 ft. *Species* cultivated, 3; varieties, 4. *Flowers*, white, purple, crimson, rose; May to Aug. *Soil*, sandy peat & leaf-mould. *Position*, moist & cool, partially shaded. *Plant*, Sept., Oct., Ap., or May. *Pruning*, unnecessary. Foliage of *K. latifolia* poisonous to cattle. *Pot culture: Compost*, two parts sandy peat, one part leaf-mould & sand. *Position*, well drained pots in greenhouse (temp. 45° to 55°) from Nov. to May; sunny place outdoors afterwards. *Water* moderately in winter; freely other times. *Propagate* by seed sown in Ap. or Oct., 1/16 in. deep, in well drained shallow pans of sandy peat in cold frame; cuttings of young shoots inserted in pots of sandy peat under bell-glass in shady cold frame Ap. to Aug.

Kalm's St. John's-Wort (*Hypericum Kalmianum*)—see Hypericum.

Kalosanthes.—*Ord.* Crassulaceæ. Greenhouse shrubby flowering plants. Evergreen. *Nat.* Cape Colony. *Int.* 1710. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3. *Flowers*, scarlet, white, red, sometimes fragrant; Ap. to Sept.

Compost, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Kamtschatka Rhododendron (*Rhododendrom Kamtschaticum*)—see Rhododendron.

Kamtschatka Weeping Birch (*Betula tristis*)—see Betula.

Kangaroo Apple (*Solanum laciniatum*)—see Solanum.

Kangaroo Grape (*Vitis antarctica or Cissus antarcticus*)—see Vitis & Cissus.

Kangaroo Vine (*Cissus antarctica*)—see Cissus.

Karatas.—*Ord.* Bromeliaceæ. Stove flowering & orn. foliaged plants. Evergreen. *Nat.* W. Indies, Brazil. *Int.* 1739. *Ht.* 1 to 2 ft. *Species* cultivated, about 9. *Flowers*, blue, crimson, orange, white, purple, pink, red, violet; Feb. to May. *Bracts*, green, red, or crimson. *Leaves*, strap-shaped, green above, purplish or whitish beneath, spiny. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Position*, well drained pots in light, moist part of stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely at other times. *Temp.*, Mar. to Sept 70° to 80°; Sept. to Mar. 65° to 75°. *Propagate* by large-sized off-shoots inserted singly in small pots of sandy peat, in temp. of 85°, Feb. to Ap.

Kat Face-shrub (*Catha edulis*)—see Catha.

Kaufmann's Sea-Lavender (*Statice Kaufmanniana*)—see Statice.

Kaulfussia.—*Ord.* Compositæ. Hardy Annual. *Nat.* Cape of Good Hope. *Int.* 1819. *Ht.* 9 to 12 in. *Species* cultivated, 1; varieties, several. *Flowers*, white, scarlet, rose, violet; June to Oct. *Soil*, ordinary. *Position*, edgings to beds or borders or in masses in sunny borders. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors, in Ap. or June, where plants are required to grow.

Kawaka-tree (*Libocedrus Doniana*)—see Libocedrus.

Keg Fig-tree of Japan (*Diospyros Kaki*)—see Diospyros.

Kendal Green (*Genista tinctoria*)—see Genista.

Kenilworth Ivy (*Linaria cymbalaria*)—see Linaria.

Kennedya (Coral creeper. Australian Bean Flower).—*Ord.* Leguminosæ. Greenhouse flowering, twining plants. Evergreen. *Nat.* Australia. *Int.* 1788. *Ht.* 4 to 10 ft. *Species* cultivated, about 6; varieties, several. *Flowers*, scarlet, red; Mar. to Aug. *Compost*, equal parts peat & loam, little silver sand. *Position*, pots, with shoots trained to trellis, or planted out in beds, & shoots trained up rafters. *Pot or plant*, Feb. or May. *Water* freely Mar. to Sept., moderately at other times. *Prune* straggling plants into shape in Feb. *Apply* weak stimulants occasionally to healthy plants in flower. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of light sandy soil in temp. of 55° to 65° in Mar. or Ap.; cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Mar. to July.

Kentia (Umbrella Palm, Curly Palm, Earl Belmore's Palm). *Ord.* Palmaceæ. Stove & greenhouse palms. *Nat.* New Guinea, Moluccas, Australia, New Zealand. *Int.* date unknown. *Ht.* 6 to 30 ft. *Species* cultivated, 9. *Leaves*, feather-shaped, graceful. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in stove or greenhouse, or in dwelling rooms during sum. *Pot*, Feb. or Mar. *Temp.* for stove species, 70° to 85°

Mar. to Sept.; 60° to 65°, Sept. to Mar.; for greenhouse & dwelling rooms, Sept. to Mar., 45° to 55°; Mar. to Sept., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Apply* weak liquid manure to healthy plants once a week, May to Sept. *Syringe* plants grown in stove & greenhouse daily. *Sponge* leaves of those grown in dwelling rooms once weekly. *Propagate* by seeds sown 1 in. deep in light soil in temp. 80°. Feb. or Mar.

Kentiopsis.—*Ord.* Palmaceæ. Stove Palms. *Nat.* New Caledonia. *Int.* 1876. *Ht.* 6 to 30 ft. *Species* cultivated, 2; *Leaves*, feather-shaped. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Temp.*, 70° to 80°, Mar. to Sept.; 60° to 65°, Sept. to Mar. *Water* moderately, Oct. to Feb.; freely afterwards. *Apply* weak liquid manure to healthy plants once a week, May to Sept. *Syringe* daily. *Propagate* by seeds sown 1 in. deep in light soil in temp. 80°, Feb. or Mar.

Kentish Cherry (*Cerasus vulgaris*)—see Cerasus.

Kentucky Coffee-tree (*Gymnocladus canadensis*)—see Gymnocladus.

Keora Oil-plant (*Pandanus odoratissimus*)—see Pandanus.

Kermes Oak (*Quercus coccifera*)—see Quercus.

Kerria (Jew's Mallow).—*Ord.* Rosaceæ. Hardy deciduous flowering shrub. *Nat.* Japan. *Int.* 1700. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, orange yellow, single & double; spring & sum. *Leaves*, green or variegated with creamy white. *Soil*, good ordinary. *Position*, against S. or W. walls or fences. *Plant*, Oct. to Mar. *Prune* in May or June, cutting off old or weak shoots only. *Pot culture: Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Oct. *Place* in cold greenhouse & water moderately. *After flowering*, place plants in sunny position outdoors till Oct. *Forcing*, place plants in temp. 55° to 65° in Jan. *Water* moderately. *Transfer* plants to sunny position outdoors after flowering. *Propagate* by cuttings of young shoots 2 to 3 in. long, inserted in sandy soil under bell-glass or hand-light or in cold frame in sum.; layering shoots in Oct.

Kerry Saxifrage (*Saxifraga affinis*)—see Saxifraga.

Ketmia (*Hibiscus africanus*)—see Hibiscus.

Khujjoor Palm (*Phœnix sylvestris*)—see Phœnix.

Khurjurah Palm (*Phœnix sylvestris*)—see Phœnix.

Kidbrook Elm (*Ulmus campestris virens*)—see Ulmus.

Kidney Bean (*Phaseolus vulgaris*)—see Phaseolus.

Kidney Cotton-plant (*Gossypium peruvianum*)—see Gossypium.

Kidney Fern (*Trichomanes reniforme*)—see Trichomanes.

Kidney-leaved Saxifrage (*Saxifraga Geum*)—see Saxifraga.

Kidney-wort (*Cotyledon umbilicus*)—see Cotyledon.

Killarney Fern (*Trichomanes radicans*)—see Trichomanes.

Kilmarnock Willow (*Salix Caprea*)—see Salix.

Kincairney Ash (*Fraxinus excelsior Kincairniæ*)—see Fraxinus.

King Begonia (*Begonia Rex*)—see Begonia.

King Fern (*Osmunda regalis*)—see Osmunda.

King Pine-tree (*Abies Webbiana*)—see Abies.

King Plant (*Anæctochilus setaceus*)—see Anæctochilus.

King's Flower (*Eucomis regia*)—see Eucomis.

King's Feather (*Saxifraga umbrosa*)—see Saxifraga.

King's Spear (*Asphodelus lutea & A. ramosa*)—see Asphodelus.

Kiss-me (*Viola tricolor*)—see Viola.

Kiss-me-at-the-garden-gate (*Viola tricolor*)—see Viola.

Kiss-me-ere-I-rise (*Viola tricolor*)—see Viola.

Kitaibelia.—*Ord.* Malvaceæ. Hardy perennial herb. Flowering & orn. foliage. *Nat.* E. Europe. *Int.* 1801. *Ht.* 6 to 8 ft. *Species* cultivated,

1. *Flowers*, white, rose; May to Oct. *Foliage*, vine-like. *Soil*, ordinary. *Position*, open, large border or shrubbery. *Plant*, Oct. or Ap. *Propagate* by division of roots in Oct. or Ap.

Kleinia.—*Ord.* Compositæ. Half-hardy perennial. Orn. foliage; adapted for carpet bedding. *Nat.* Cape of Good Hope. *Int.* 1759. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Leaves*, cylindrical, fleshy, bluish grey. *Soil*, ordinary. *Position*, dry, in cool greenhouse, Oct. to May; sunny beds or borders outdoors, May to Oct. *Plant*, May. *Water* very little, Oct. to Mar., moderately afterwards. *Propagate* by division in Mar., placing plants in small pots in a temp. of 55°.

Knee Holly (*Ruscus aculeatus*)—see Ruscus.

Knee Pine-tree (*Pinus pumilis nana*)—see Pinus.

Knight's Star Lily (*Hippeastrum equestre*)—see Hippeastrum.

Kniphofia (Red-hot Poker Plant, Common Flame Flower, Torch Lily, Club Lily, Burchell's Torch Lily, Dwarf Torch Lily, Rooper's Torch Lily, Large Torch Lily).—*Ord.* Liliaceæ. Hardy herbaceous perennials; flowering & orn. foliage. *Nat.* Tropical & S. Africa, Madagascar. *Int.* 1707. *Ht.* 1 to 4 ft. *Species* cultivated, about 16; varieties several. *Flowers*, scarlet, yellow, red, orange, salmon; Aug. to Nov. *Leaves*, green or bluish green, long & narrow. *Soil*, sandy, well enriched with manure. *Position*, sunny, well drained borders. *Plant*, Nov. or Ap. *Top-dress* annually in Ap. with well-decayed manure. *Water* freely in dry weather during spring & sum. *Apply* liquid manure once a week to established plants in sum. *Protect* in severe weather by covering of dry leaves or straw. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in shallow boxes in cold frame in Mar. or Ap.; transplanting seedlings outdoors when large enough to handle; division of roots in Nov. or Ap.

Knot-berry (*Rubus Chamæmorus*)—see Rubus.

Knotted Marjoram (*Origanum Marjorana*)—see Origanum.

Kœniga (Sweet Alyssum).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Europe (Britain). *Ht.* 6 to 9 in. *Species* cultivated, 1. *Flowers*, white, fragrant; May to Oct. *Soil*, ordinary. *Position*, edgings to beds, or in masses in borders. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in Ap., June, or Sept., where plants are required to grow. *Pot Culture: Compost*, two parts good ordinary soil, one part leaf-mould or cocoanut-fibre refuse. *Position*, cold frame, greenhouse, or sunny window. *Water* moderately at first, freely afterwards. *Apply* stimulants when in bloom only. *Sow* seeds thinly $\frac{1}{16}$ in. deep, in 5 or 6 in. pots. *Thin* seedlings to $\frac{1}{4}$ in. apart when $\frac{1}{2}$ in. high.

Koelreuteria.—*Ord.* Sapindaceæ. Hardy deciduous tree. Flowering & orn. foliage. *Nat.* N. China. *Int.* 1763. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Leaves*, feather-shaped, graceful. *Soil*, ordinary. *Position*, open but sheltered. *Plant*, Oct. to Mar. *Pruning* unnecessary. *Propagate* by cuttings of young shoots, inserted in sandy soil under hand-light or in cold frame in Ap. or May; layering branches in Sept. or Oct.

Kohl Rabi (*Brassica Caulo-rapa*)—see Brassica.

Kolpakowsky's Tulip (*Tulipa Kolpakowskyana*)—see Tulipa.

Korolkow's Tulip (*Tulipa Korolkowi*)—see Tulipa.

Kotschy's Crocus (*Crocus Kotschyanus*)—see Crocus.

Kramer's Lily (*Lilium Krameri*)—see Lilium.

Kum-quat (*Citrus japonica*)—see Citrus.

Labichea.—*Ord.* Leguminosæ. Greenhouse flowering shrub. *Nat.* Australia. *Int.* 1840. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, red; Ap. to Aug. *Compost*, equal parts peat, loam, & sand. *Position*, well-drained pots in light, sunny greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Water* moderately, Oct. to Ap.; freely afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Requires* plenty of air, Ap. to Oct.

Propagate by cuttings of firm shoots inserted in sand, under bell-glass in cool greenhouse, June to Aug.

Labrador Mountain Avens (*Dryas tenella*)—see Dryas.

Labrador Tea-plant (*Ledum latifolium*)—see Ledum.

Laburnum (Golden Chain).—*Ord.* Leguminosæ. Hardy deciduous flowering trees. *Nat.* S. Europe. *Int.* 1596. *Ht.* 15 to 20 ft. *Species* cultivated, 1; varieties about 6. *Flowers*, yellow; Ap. to July. *Soil*, ordinary. *Position*, sunny shrubberies. *Plant*, Oct. to Mar. *Prune* directly after flowering. *Propagate* by seeds sown ¼ in. deep outdoors in Mar. or Ap.; by layers, Oct. or Nov.; varieties by grafting in Mar., or budding in July on common species. Strictly the common Laburnum is a species of Cytisus, which see.

Lace Fern (*Cheilanthes elegans*)—see Cheilanthes.

Lace-leaf Plant (*Ouvirandra fenestralis*)—see Ouvirandra.

Lachenalia (Cape Cowslip, Leopard Lily).—*Ord.* Liliaceæ. Greenhouse bulbous flowering plants. Deciduous. *Nat.* S. Africa. *Int.* 1752. *Ht.* 2 to 12 in. *Species* cultivated, about 20; varieties several. *Flowers*, white, red, lilac, yellow, blue, purple, green, violet, fragrant; Feb. to June. *Leaves* of some species spotted purple. *Compost*, two parts fibrous sandy loam, half part leaf-mould, half part decayed cow manure, & one part river or coarse silver sand. *Position*, well drained pots, pans, or baskets; light. *Pot*, Aug., placing 6 bulbs ½ in. deep in a 5-in. pot, or 1 to 2 in. apart in pans or baskets. *After* potting, water & place pots in cold frame until Nov.; then remove to airy shelf in greenhouse. *Temp.*, 45° to 55°. *Water* moderately when growth begins; freely when well advanced. *Apply* weak stimulants occasionally when flower spikes form; discontinue when in bloom. *After* flowering gradually withhold water, place pots in sunny position outdoors, & keep quite dry to ripen bulbs. *Growing period*, Sept. to June; *resting period*, June to Sept. *Forcing* (L. tricolor): *Pot*, & treat as above until Nov., then remove into temp. of 55° to 65°. *Propagate* by offsets removed & placed in separate pots at potting time.

Lactuca (Flowering and Edible Lettuce).—*Ord.* Compositæ. Hardy border perennials & salad vegetables (annual). *Nat.* (flowering lettuce) Europe, Siberia, Tauria, & Himalayas; (edible lettuce) uncertain, but probably Asia. *Int.* (edible lettuce) 1562. *Ht.* (perennials) 1 to 3 ft. *Species* cultivated, about 5 perennials; varieties only of edible lettuce. *Flowers*, blue, yellow; May to Oct. *Culture of flowering lettuce* (perennials): *Soil*, sandy loam. *Position*, open, sunny, dryish border. *Plant*, Oct. or Mar. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap.; division of roots in Mar. *Culture of edible lettuce: Soil*, light, rich, deeply dug, well manured. *Position*, South borders for spring & winter crops; open, sunny for summer crops. *Sow seeds* ⅛ in. deep in light soil in temp. 65° in Jan., Feb., or Mar., for planting outdoors in Mar., Ap., & May; in bed of rich soil in sunny spot outdoors in Mar., Ap., May, & June, for planting out in Ap., May, June, & July; outdoors in Aug. & Sept., for planting out in Sept. & Oct.; in cold frames in Oct., for planting out in Mar. *Plant*, 10 in. apart in rows 12 in. asunder. *Blanch* cos varieties by tying bast round outside a week before required for use. *Surround* each newly planted seedling with a cordon of soot or lime. *Water* freely when first planted, if weather dry. *Cabbage* varieties best for poor dry soil; cos for heavy & rich soil. *Suitable artificial manures:* Superphosphate of lime applied before planting at the rate of 1½ lb. per square rod; nitrate of soda, when plants begin to grow freely, at rate 1½ lb. to square rod—apply latter in showery weather. *For producing seed*, plant in poor soil in Ap. or May. *Seed* retains vegetative powers for four years; best hearts produced by plants grown from two-year old seed. *Winter lettuce* ought to be grown in cold frames during winter, & planted out in Mar.

Ladanum Gum Cistus (*Cistus ladaniferus*)—see Cistus.

Ladanum Gum-plant (*Cistus ladaniferus*)—see Cistus.

Ladder Fern (*Nephrolepis exaltata*)—see Nephrolepis.

Ladder-to-Heaven (*Polygonatum multiflorum* & *Polemonium cœruleum*)—see Polygonatum & Polemonium.

Ladies' Fox Glove (*Verbascum Thapsus*)—see Verbascum.

Ladies'-laces Grass (*Phalaris arundinacea variegata*)—see Phalaris.

Lad's-love (*Artemisia Abrotanum*—see Artemisia.

Lady Auckland's Daphne (*Daphne Aucklandiæ*)—see Daphne.

Lady Bank's Rose (*Rosa Banksiæ*)—see Rosa.

Lady-Birch (*Betula alba*)—see Betula.

Lady Dalhousie's Rhododendron (*Rhododendron Dalhousianum*)—see Rhododendron.

Lady Fern (*Athyrium Felix-fœmina*)—see Athyrium.

Lady Grass (*Phalaris arundinacea variegata*)—see Phalaris.

Lady-in-the-Bower (*Nigella damascena*)—see Nigella.

Lady-of-the-Meadow (*Spiræa ulmaria*)—see Spiræa.

Lady Orchis (*Orchis purpurea*)—see Orchis.

Lady-Poplar (*Populus fastigiata*)—see Populus.

Lady's Bower (*Clematis vitalba*)—see Clematis.

Lady's-Calamus (*Iris cristata*)—see Iris.

Lady's-Cushion (*Arabis albida* & *Armeria maritima*)—see Arabis & Armeria.

Lady's Garters (*Phalaris arundinacea variegata*)—see Phalaris.

Lady's-Hair (*Briza media*)—see Briza.

Lady's-Looking-glass (*Campanula speculum*)—see Campanula.

Lady's-Pincushion (*Armeria maritima*)—see Armeria.

Lady's-Seal (*Polygonatum multiflorum*)—see Polygonatum.

Lady's-Signet (*Polygonatum multiflorum*)—see Polygonatum.

Lady's-Slipper (*Cypripedium calceolus*)—see Cypripedium.

Lady's-Thimble (*Campanula rotundifolia*)—see Campanula.

Lælia.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* Brazil, Mexico. *Int.* 1831. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 30; varieties numerous. *Flowers*, white, purple, lilac, rose, scarlet, orange, red, magenta, crimson, brown, yellow, fragrant; Jan. to Dec. *Compost*, two parts coarse fibrous peat, one part living sphagnum moss, charcoal, & sand. *Position*, pots, pans, or hanging baskets, or on blocks with moss only. *Pot* or reblock, Feb. or Mar. *Fill* pots ⅔ with broken crocks, & keep plants well above rim of pot. *Secure* plants & moss to blocks by means of copper wire. *Water* pot & basket plants three times weekly, Mar. to Aug.; once weekly, Aug. to Nov. & Feb. to Mar.; once a month other times. Plants on blocks daily, Mar. to Aug.; & twice a week, Aug. to Nov. & Feb. & Mar.; once a week other times. *Syringe* freely in sum. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Lagenaria (Bottle Gourd, Trumpet Gourd).—*Ord.* Cucurbit
Hardy orn. fruiting annual. *Nat.* Trop. Asia & Africa. *Int.* 1597.
10 ft. *Species* cultivated, 1; varieties several. *Flowers*, yellow.
oblong, bottle-like, 1 to 6 ft. long. *Soil*, rich ordinary. *Position*, beds at foot of low sunny walls, fences, or arbours, or on the summit of sunny banks, shoots growing at will. *Plant*, June. *Water* freely, & apply stimulants when fruit has formed. No pinching of shoots required. *Propagate* by seeds sown ½ in. deep in light soil in temp. 55° to 65° in Ap.

Lagerstromia (Cape Myrtle, Indian Lilac, Queen's Flower).—*Ord.* Lythraceæ. Stove & greenhouse evergreen flowering shrubs. *Nat.* China, E. Indies. *Int.* 1792. *Ht.* 6 to 12 ft. *Species* cultivated, 2; variety, 1. *Flowers*, rose, purple, pink, white; May to Aug. *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots in light part of greenhouse or stove. *Pot*, Feb. or Mar. *Prune*, slightly in Oct. or Nov. *Water* freely, Mar. to Oct.; very little Oct. to Mar. *Syringe* twice daily, Mar. to Sept. *Temp.:* Stove species, 55° to 60°, Oct. to Mar.; 65° to 75°, Mar. to Oct.; greenhouse species, Oct. to Mar., 45° to 55°; Mar. to Oct., 60° to 70°. *Propagate* by cuttings of firm side shoots, inserted in sandy peat, under bell-glass in temp. of 70° to 80° in Mar., Ap., Aug., or Sept.

Lagurus (Hare's-Tail Grass, Turk's Head Grass).—*Ord.* Graminaceæ. Hardy orn. annual grass. *Nat.* S. & W. Europe (Britain). *Ht.* 10 to 12 in. *Species* cultivated, 1. *Inflorescence* borne in egg-shaped heads, white, downy; June to Sept. Very useful in dried state for winter decorations. *Soil*, ordinary. *Position*, open dryish borders. *Gather* inflorescence for drying in Aug. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap. where plants are required to grow, or in well drained pans of light soil in cold frame in Oct., planting outdoors in Ap.

Lamarckia.—*Ord.* Graminaceæ. Hardy orn. annual grass. *Nat.* S. Europe, N. Africa. *Int.* 1770. *Ht.* 6 to 8 in. *Species* cultivated, 1. *Inflorescence* plume-like, silky & golden; June to Sept. Useful in a dried state for winter decorations. *Soil*, ordinary. *Position*, patches in open sunny borders. *Gather* inflorescence for winter use in Aug. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap. where plants are required to grow, or in well drained pans of light soil in cold frame in Oct., planting outdoors in Ap.

Lambertia.—*Ord.* Proteaceæ. Greenhouse evergreen flowering shrub. *Nat.* Trop. Australia. *Int.* 1788. *Ht.* 4 ft. *Species* cultivated, 1. *Flowers*, red; July to Sept. *Compost*, equal parts sandy loam, fibrous peat with little charcoal & sand. *Position*, well drained pots in light, airy greenhouse. *Pot*, Mar. *Prune* straggling shoots into shape only in Feb. *Water* moderately, Sept. to Mar.; freely afterwards. *Ventilate* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Propagate* by cuttings of young side shoots, inserted in sandy peat under bell-glass in temp. of 55° to 65° in Mar. or Ap., or by cuttings of firm shoots, inserted in similar soil & position in temp. 55° in Aug. or Sept.

Lamb-kill (*Andromeda Mariana* & *Kalmia angustifolia*)—see Andromeda & Kalmia.

Lamb's-chop (*Mesembryanthemum agninum*)—see Mesembryanthemum.

Lamb's-ear (*Stachys germanica*)—see Stachys.

Lamb's-Lettuce (*Valerianella olitoria*)—see Valerianella.

Lamp-wick (*Phlomis Lychnites*)—see Phlomis.

Lamium (Balm-leaved Dead-Nettle, Weasel's Snout, Golden Dead-Nettle, Yellow Archangel, Spotted Dead-Nettle, Variegated Dead-Nettle).—*Ord.* Labiatæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia, Africa. *Ht.* 6 to 15 in. *Species* cultivated, 2; varieties, 2. *Flowers*, yellow, purple; May to Sept. *Leaves*, egg or heart-shaped, with serrated margins, golden, bronze, green, & white. *Soil*, ordinary. *Position*, dryish, sunny borders. *L. aureum* very effective dwarf-edging plant for borders in sum. *Plant*, Oct. or Ap. *Propagate* by division of roots, Oct. or Mar.

Lance-fronded Spleen-wort (*Asplenium lanceolatum*)—see Asplenium.

Lance-leaved Blanket-Flower (*Gaillardia lanceolata*)—see Gaillardia.

Lance-leaved Saxifrage (*Saxifraga lanceolata*)—see Saxifraga.

Lance-leaved Tick-seed (*Coreopsis lanceolata*)—see Coreopsis.

Lance-leaved Violet (*Viola lanceolata*)—see Viola.

Land Cress (*Barbarea præcox*)—see Barbarea.

Lantana (Jamaica Mountain Sage, Surinam Tea-plant).—*Ord.* Verbenaceæ. Greenhouse & half-hardy evergreen flowering shrubs. *Nat.* Jamaica, Monte Video, W. & E. Indies. *Int.* 1690. *Ht.* 1 to 6 ft. *Species* cultivated, about 6; varieties numerous. *Flowers*, red, orange, white, purple, brown, scarlet, chocolate, yellow, rose, pink, lavender, violet; May to Nov. *Pot culture: Compost*, two parts loam, one part peat, leaf-mould, or decayed manure, little sand, & charcoal. *Position*, well drained pots in light greenhouse. *Pot*, firmly, Mar. *Water* freely, Ap. to Oct.; moderately, Oct. to Ap. *Prune* into shape, Feb. *Temp.*, Oct. to Mar., 45° to 55°; Mar. to Oct., 55° to 65°. *Apply* weak stimulants once or twice weekly, May to Sept. *Outdoor culture: Soil*, rich sandy. *Position*, sunny dryish beds or borders. *Plant*, June. *Lift* in Sept.; repot & replace in greenhouse for winter. *Propagate* by seeds sown 1/16 in. deep in well drained pots or pans of sandy peat & leaf-mould, in temp. of 70° to 80° in Feb., Mar., or Ap.; by cuttings of firm shoots 2 to 3 in. long inserted in small pots of sandy peat under bell-glass in temp. of 55° to 65°. in Aug. or Sept.; or by cuttings of young side shoots 2 in. long inserted as above in temp. 60° to 70°, Mar. or Ap.

Lantern-flower (*Abutilon Darwini*)—see Abutilon.

Lapageria.—*Ord.* Liliaceæ. Greenhouse & half-hardy flowering climber. Evergreen. *Nat.* Chili. *Int.* 1847. *Ht.* 15 to 30 ft. *Species* cultivated, 1; varieties several. *Flowers*, rose, crimson, white; all the year round. *Indoor culture: Compost*, three parts fibrous peat, one part loam, one part equal proportions of sand & charcoal. *Position*, shady in large well drained pots, tubs, beds, or borders, with shoots trained to trellises or up walls or rafters of greenhouse. *Pot* or plant, Feb. or Mar. *Good* drainage very essential. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily from Mar. until flowers develope. *Prune* away dead or sickly shoots only in Mar. *Ventilate* freely, Ap. to Oct. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Foliage* must be kept free from insects. *Outdoor culture: Soil*, equal parts peat & loam. *Position*, west walls, sheltered, in S. of England only. *Plant*, Oct. or Mar., in well drained bed. *Protect* in severe weather. *Water* freely in dry weather. *Propagate* by seeds sown ⅛ in. deep in well drained pots or pans of sandy peat & leaf-mould in temp. of 55° to 65° in Mar. or Ap.; by layering strong shoots in sandy peat in spring or autn.

Lapeyrousia.—*Ord.* Iridaceæ. Hardy bulbous flowering plants. *Nat.* Cape of Good Hope. *Int.* 1791. *Ht.* 6 to 12 in. *Species* cultivated, about 3. *Flowers*, blue, purple, pink, rose; May to Sept. *Soil*, sandy loam & leaf-mould. *Position*, sunny well drained borders or rockeries. *Plant*, bulbs 4 in. deep & 3 in. apart, Sept. to Oct. *Pot culture: Compost*, equal parts sandy loam, leaf-mould, & sand. *Position*, cold frame, Sept. to Feb.; cool or cold greenhouse afterwards. *Pot* Sept., placing six bulbs in a 6-in. pot, & cover with cinder ashes till growth begins. *Water* moderately when new growth commences; keep dry after flowering till potting time. *Propagate* by offshoots removed at planting or potting time, & treated as old bulbs.

Lapper Gowan (*Trollius europæus*)—see Trollius.

Larch Pine (*Pinus Laricio*)—see Pinus.

Larch (*Larix europæa*)—see Larix.

Lardizabala.—*Ord.* Berberidaceæ. Hardy evergreen flowering climber. Orn. foliage. *Nat.* Chili. *Int.* 1848. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, purple; Dec. *Foliage*, divided, green, glossy. *Soil*, equal parts sandy loam & peat. *Position*, well drained border at base of S. or W. walls. *Plant*, Sept., Oct., Mar., or Ap. *Prune* away dead or straggly shoots only in Ap. *Suitable* also for growing against walls in cold greenhouses or conservatories. *Propagate* by cuttings of firm shoots, 1 to 2 in. long, inserted in sandy loam & peat in well drained pots under bell-glass, in temp. 45° to 55°, spring or autn.

Large African Lily (*Crinum giganteum*)—see Crinum.

Large Autumn Crocus (*Crocus speciosus*)—see Crocus.

Large-blossomed Blanket Flower (*Gaillardia grandiflora*)—see Gaillardia.

Large Blue Bell (*Scilla campanulata*)—see Scilla.

Large-calyxed Primrose (*Primula calycina*)—see Primula.

Large Cape Marigold (*Calendula hybrida*)—see Calendula.

Large Crimson-flowered Groundsel (*Senecio pulcher*)—see Senecio.

Large-flowered Andromeda (*Andromeda speciosa*)—see Andromeda.

Large-flowered Australian Heath (*Epacris grandiflora*)—see Epacris.

Large-flowered Barren-wort (*Epimedium macranthum*)—see Epimedium.

Large-flowered Bell-flower (*Campanula macrantha*)—see Campanula.

Large-flowered Christmas Rose (*Helleborus niger maximus*)—see Helleborus.

Large-flowered Clematis (*Clematis florida*)—see Clematis.

Large-flowered Dragon's Head (*Dracocephalum grandiflorum*)—see Dracocephalum.

Large-flowered Evening Primrose (*Œnothera Lamarckiana*)—see Œnothera.

Large-flowered Everlasting (*Helichrysum macranthum*)—see Helichrysum.

Large-flowered Flea-bane (*Erigeron grandiflorus*)—see Erigeron.

Large-flowered Fox-glove (*Digitalis grandiflora*)—see Digitalis.

Large-flowered Groundsel (*Senecio Doronicum*)—see Senecio.

Large-flowered Laburnum-tree (*Cytisus grandiflorus*) — see Cytisus.

Large-flowered Lady's-slipper (*Cypripedium macranthum*)—see Cypripedium.

Large-flowered Larkspur (*Delphinium grandiflorum*)—see Delphinium.

Large-flowered Loose-strife (*Lysimachia grandiflora*)—see Lysimachia.

Large-flowered Lychnis (*Lychnis grandiflora*)—see Lychnis.

Large-flowered Mock-Orange (*Philadelphus grandiflorus*) — see Philadelphus.

Large-flowered Pimpernel (*Anagallis grandiflora*)—see Anagallis.

Large-flowered Plantain Lily (*Funkia grandiflora*) - see Funkia.

Large-flowered St. John's-wort (*Hypericum calycinum*)—see Hypericum.

Large-flowered Sandwort (*Arenaria grandiflora*)—see Arenaria.

Large-flowered Scarlet Avens (*Geum coccineum grandiflorum*)—see Geum.

Large-flowered Self-heal (*Prunella grandiflora*)—see Prunella.

Large-flowered Skull-cap (*Scutellaria macrantha*) —see Scutellaria.

Large-flowered Spindle-tree (*Euonymus grandiflorus*)—see Euonymus.

Large-flowered Sun-rose (*Helianthemum grandiflorum* & *H. macranthum*)—see Helianthemum.

Large-flowered Syringa (*Philadelphus grandiflorus*)—see Philadelphus.

Large-flowered Thrift (*Armeria grandiflora*)—see Armeria.

Large-flowered Tick-seed (*Coreopsis grandiflora*)—see Coreopsis.

Large-flowered Torch-lily (*Tritoma Uvaria grandiflora*) — see Tritoma.

Large-flowered White Bell-flower (*Campanula macrantha alba*) —see Campanula.

Large-flowered Whortle-berry (*Vaccinium grandiflorum*) — see Vaccinium.

Large-fringed Stone-crop (*Sedum spurium*)—see Sedum.

Large-fruited Spindle-tree (*Euonymus latifolius*)—see Euonymus.

Large-headed Centaury (*Centaurea macrocephala*)—see Centaurea.

Large-leafleted Rose Acacia (*Robinia hispida macrophylla*)—see obinia.

Large-leaved Aronia (*Pyrus grandifolia*)—see Pyrus.

Large-leaved Dog-wood (*Cornus macrophylla*)—see Cornus.

Large Periwinkle (*Vinca major*)—see Vinca.

Large Purple-fruited Juniper (*Juniperus macrocarpus*)—see Juniperus.

Large Rampion (*Œnothera biennis*)—see Œnothera.

Largest Rhododendron (*Rhododendron maximum*)—see Rhododendron.

Large Rose-tinted Evening-Primrose (*Œnothera marginata*)—see Œnothera.

Large Scarlet Catch-fly (*Silene rotundifolia*)—see Silene.

Large-spiked Horse Chestnut (*Pavia macrostachya*)—see Pavia.

Large-spined Broom (*Genista horrida*)—see Genista.

Large-styled Cross-wort (*Crucianella stylosa* —see Crucianella.

Large White American Wood-lily (*Trillium grandiflorum*)—see Trillium.

Large Yellow-flowered Barren-wort (*Epimedium pinnatum*)—see Epimedium.

Large Yellow Toad-flax (*Linaria dalmatica*)—see Linaria.

Larix (Larch-tree).—*Ord.* Coniferæ. Hardy deciduous trees. Orn. foliage. *Nat.* Europe, Siberia, Japan, N. India, N. America. *Int.* 1629. *Ht.* 20 to 150 ft. *Species* cultivated, 7. *Leaves*, needle-shaped, soft; borne singly or in bundles. *Cones*, small, oval, or cylindrical. *Soil*, ordinary. *Position*, dry banks in open or shady shrubberies or in woodlands as nurses to tender conifers. *Plant*, Oct. to Mar. *Propagate* by seeds sown ¼ in. deep, & 1 in. apart in sandy soil in Nov.; transplant when two years old.

Lasiandra (Brazilian Spider-flower).—*Ord.* Melastomaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Brazil. *Int.* 1864. *Ht.* 4 to 21 ft. *Species* cultivated, 1; variety, 1. *Flowers*, violet, purple; Ap. to Aug. *Compost*, two parts turfy loam, one part peat, & one part charcoal & sand. *Position*, well drained pots, tubs, or beds, with shoots trained to trellis, or up pillars, rafters, or walls. *Pot*, or plant, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* stimulants once a week, May to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Propagate* by cuttings of firm side shoots 3 in. long inserted singly in small pots of sandy soil, under bell-glass or in propagator, in temp. of 70° to 80°, Feb. to Sept.

Lasthenia.—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1834. *Ht.* 9 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, warm, sheltered rockeries, beds, or borders. *Propagate* by seeds sown ⅛ in. deep in Ap. where plants are required to grow for summer flowering; in Sept. or Oct., similarly for spring flowering.

Lastrea (Buckler Fern, Shield Fern, Male Fern, Violet-scented Fern). *Ord.* Filices, stove, greenhouse, & hardy ferns. Evergreen & deciduous. *Nat.* Europe (Britain), India, China, Japan, N. & S. America, S. Africa, New Zealand. *Int.* (foreign species) 1784. *Ht.* 6 to 30 in. *Species* cultivated, 1 stove 32 greenhouse, 13 hardy; varieties numerous. *Fronds*, chiefly feather-shaped, occasionally crested, green, or variegated. *Culture of Stove species: Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots in shady part of stove. *Pot*, Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Culture of greenhouse species: Compost*, as above. *Position*, well drained pots, borders, or rockeries, in shade. *Pot* or plant, Feb., Mar., or Ap. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Culture of hardy species: Soil*, ordinary light rich. *Position*, shady borders or rockeries. *Plant*, Ap. *Water* freely in dry weather, May to Sept. *Top-dress* annually with leaf-mould or well decayed manure. *Protect* in severe weather with bracken or litter. *Do* not remove dead fronds until Ap. *Propagate* by spores sown on surface of fine sandy peat, under bell-glass, in temp. 75° to 85° any time; division of plants at potting or planting time.

Latania (Bourbon Palm).—*Ord.* Palmaceæ. Stove Palms. *Orn.* foliage. *Nat.* Mauritius, Bourbon & Rodriguez Islands. *Int.* 1778. *Ht.* 7 to 10 ft. *Species* cultivated, about 3. *Leaves*, fan-shaped, bright green. *Compost*, two parts loam, one part peat & a little charcoal & sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* once daily in winter; twice other times. *Temp.*, Mar. to Sept, 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown ½-in. deep in rich light soil in temp. of 80° to 90°, Feb., Mar., or Ap.

Late-blooming Crocus (*Crocus autumnalis*)—see Crocus.

Late-flowering Star-wort (*Aster tardiflorus*)—see Aster.

Lathyrus (Everlasting Pea, Lord Anson's Pea, Sweet Pea).—*Ord.* Leguminosæ. Hardy annuals & herbaceous perennial climbers. Flowering. *Nat.* (sweet pea) Sicily; (common everlasting pea) Britain; other species, Europe, America, Africa, Asia. *Int.* (foreign species), 1596; (sweet pea), 1700. *Ht.* 1 to 15 ft. *Species* cultivated, 7 annuals, 10 perennials; varieties numerous. *Flowers*, various; May to Oct. *Culture of annual species: Soil*, rich ordinary. *Position*, groups in sunny borders, shoots supported by tree branches; against sunny walls or fences; in sunny window boxes; in rows in open garden. *Sow* seeds three or four in a 3-in. pot in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; or 2 in. deep in Mar. or Ap., where plants are to grow. *Water* liberally in dry weather. *Apply* liquid manure once or twice weekly to plants in flower. *Remove* seed pods as they form up to Sept., to ensure plenty of flowers. *Pot culture: Sow* four seeds 1 in. deep in 3-in. pots in temp. 45° to 55° in Mar. *Compost*, two parts loam, one part leaf-mould & sand. *Transfer* four seedlings, when 2 in. high, to a 5-in. pot. *Support* shoots with small tree branches. *Water* liberally. *Apply* liquid manure when flowers show. *Grow* in cool greenhouse or window when in flower. *Culture of perennial species: Soil*, ordinary deep rich. *Position*, against sunny walls, fences, arbours, or tree stumps. *Plant*, Oct., Nov., Mar., or Ap. *Apply* liquid manure occasionally in sum. *Water* freely in dry weather. *Prune* away stems close to ground in Oct. *Top-dress* with decayed manure in Mar. *Propagate* by seeds sown in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; or outdoors in Ap.; by division of roots in Mar. or Ap.

Lattice-leaf Plant (*Ouvirandra fenestralis*)—see Ouvirandra.

Laurel (*Cerasus Lauro-cerasus*)—see Cerasus.

Laurel-leaved Rock-rose (*Cistus laurifolius*)—see Cistus.

Laurel Oil-plant (*Laurus nobilis*)—see Laurus.

Laurestinus (*Viburnum Tinus*)—see Viburnum.

Laurus (Bay Laurel, Bay Tree, Sweet Bay, Victor's Laurel, Poet's Laurel).—*Ord.* Lauraceæ. Hardy evergreen tree. Orn. foliage. *Nat.* S. Europe. *Int.* 1562. *Ht.* 15 to 30 ft. *Species* cultivated, 1; varieties several.

Flowers, male & female born on separate trees, yellow, insignificant. *Berries*, dark purple; ripe, Oct. *Leaves*, lance-shaped, dark green, aromatic. *Soil*, ordinary. *Position*, open, sunny sheltered shrubberies or borders. *Plant*, Sept., Mar., or Ap. *Prune* into shape when necessary in Ap. *Culture in tubs: Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained in sum. *Plant*, Sept., Oct., Mar., or Ap. *Place* outdoors, May to Oct., cool greenhouse or other frost-proof place, Oct. to May. *Water* very little, Oct. to Ap.; freely afterwards. *Propagate* by cuttings of shoots, 3 to 4 in. long, inserted in sandy soil under hand lights in shady place outdoors, Aug., Sept., or Oct.; layering shoots in Sept. or Oct.

Lavandula (Lavender).—*Ord.* Labiatæ. Greenhouse & hardy flowering shrubs. Evergreen. *Nat.* S. Europe, Canary Islands, Madeira. *Int.* 1568. *Ht.* 1 to 3 ft. *Species* cultivated, 2 hardy; 3 greenhouse; varieties 3. *Flowers*, lilac, blue, fragrant; June to Sept. *Culture of greenhouse species: Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in light airy part of greenhouse. *Pot*, Feb. or Mar. *Prune* slightly into shape, Feb. *Water* very moderately, Oct. to Mar.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Apply* weak stimulants to plants when in flower only. *Outdoor culture: Soil*, ordinary light. *Position*, warm, dry, & sunny. *Plant*, Mar. or Sept., a foot apart in rows 2 ft. asunder. *Water* occasionally in dry weather. *Prune* straggly plants into shape, Mar. or Ap. *Gather* blossoms for drying or distilling when they assume a brown colour. Dry slowly in shade & store in dry place. *Leaves* of all species fragrant. *Propagate* greenhouse species by cuttings of young shoots inserted in sandy soil under bell-glass in temp. of 55° to 65°, Mar. or Ap.; hardy species by small branches pulled off large plants & inserted in ordinary soil in sunny position outdoors, Ap. or Sept.

Lavatera (Tree Mallow).—*Ord.* Malvaceæ. Half-hardy biennial & annual. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia Minor. *Int.* (foreign species), 1633. *Ht.* 3 to 10 ft. *Species* cultivated, 2; variety, 1; variegated. *Flowers*, purple; June & Aug. *Leaves*, hand-shaped, green or variegated with white. *Culture of biennial species* (*L. aborea*): *Soil*, ordinary. *Position*, warm, sheltered, dryish borders. *Plant*, June. *Culture of annual species* (*L. trimestris*): *Soil*, ordinary light rich. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep where plants are required to grow in Sept. or Ap. *Propagate* biennial species by seeds sown in pots or boxes of light soil in temp. of 55° to 60° in Mar. or Ap.; or in sunny position outdoors, Ap. or May.

Lavender (*Lavandula spica*)—see Lavandula.

Lavender Oil-plant (*Lavandula vera*—see Lavandula.

Lawn Pearl-wort (*Spergula pilifera*)—see Spergula.

Lawn Spurrey (*Spergula pilifera*)—see Spergula.

Lawson's Cypress (*Cupressus Lawsoniana*)—see Cupressus.

Lawsonia (Egyptian Privet, Henna Plant, Jamaica Mignonette).—*Ord.* Lythraceæ. Stove flowering-tree. Deciduous. *Nat.* Africa, Arabia, Persia, India. *Int.* 1752. *Ht.* 5 to 8 ft. *Flowers*, white, fragrant; Mar. & Sept. *Compost*, equal parts turfy loam, peat, & sand. *Position*, well drained pots in light part of plant stove. *Pot*, Mar. or Ap. *Prune* into shape, Feb. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* freely, Mar. to Sept. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings of firm shoots 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. of 85° in Mar. or Ap.

Layia (Tidy-tips Flower).—*Ord.* Compositæ. Hardy annuals. *Nat.* N. America. *Int.* 1834. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, white; June to Sept. *Soil*, ordinary. *Position*, sunny bed or borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light mould in temp. 55° to 65° in Ap., transplanting seedlings outdoors end of May; or outdoors in Ap. where plants are required to grow.

Lead-wort (*Plumbago capensis*)—see Plumbago.

Leaf-flowering Cactus (*Epiphyllum truncatum*)—see Epiphyllum.

Leaf of St. Patrick (*Saxifraga umbrosa*)—see Saxifraga.

Leafy Orchis (*Orchis foliosa*)—see Orchis.

Leafy Phlox (*Phlox frondosa*)—see Phlox.

Leather Flower (*Clematis viorna*)—see Clematis.

Leavenworthia.—*Ord.* Cruciferæ. Hardy annuals. *Nat.* U. S. America. *Int.* 1868. *Ht.* 3 in. *Species* cultivated, 1; variety, 1. *Flowers*, golden yellow, lilac; June to Sept. *Soil*, ordinary. *Position*, sunny, as edgings to beds, or in masses in borders. *Propagate* by seed sown in temp. 55° to 65° in Ap., planting seedlings outdoors in June; or outdoors in May where plants are to flower.

Lebanon Cedar (*Cedrus Libani*)—see Cedrus.

Ledum (Labrador Tea, Marsh Cistus, Marsh Rosemary).—*Ord.* Ericaceæ. Hardy flowering shrubs. Evergreen. *Nat.* U. S. America & N. Europe. *Int.* 1762. *Ht.* 1 to 3 ft. *Species* cultivated, 2; varieties, 2. *Flowers*, white; Ap. & May. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open, well drained beds or borders in company with azaleas, kalmias, etc. *Plant*, Oct., Nov., or Mar., disturbing roots as little as possible. *Propagate* by seeds sown $\frac{1}{16}$ in. deep, in a well drained pan of sandy peat in a cold frame in Mar.; by layering in Sept.; division of roots in Sept. or Oct.

Ledum-leaved Azalea (*Azalea ledifolia*)—see Azalea.

Leea.—*Ord.* Ampelidaceæ. Stove Shrub. Orn. foliage. *Nat.* Borneo. *Int.* 1880. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, bronzy-green, striped with white above, and dark-red below. *Compost*, two parts loam, one part well decayed manure or leaf-mould and one part sharp silver sand. *Position*, well drained pots in shade. *Pot*, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Aug. *Propagate* by cuttings of side shoots inserted in sandy soil under bell-glass in temp. 75° to 85° in spring.

Leek (*Allium Pŏrrum*)—see Allium.

Leiophyllum (Sand Myrtle).—*Ord.* Ericaceæ. Hardy flowering shrub. Evergreen. *Nat.* New Jersey, Virginia. *Int.* 1736. *Ht.* 4 to 8 in. *Species* cultivated, 1. *Flowers*, white, pink; May & June. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open, margins of well drained beds or borders. *Plant*, Oct, Nov., or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pan of sandy peat in a cold frame in Mar.; by layering in Sept.

Lemon Bergamot Tree (*Citrus Bergomia*)—see Citrus.

Lemon-coloured Mariposa Lily (*Calochortus citrinus*)—see Calochortus.

Lemon Grass (*Andropogon Schœnanthus*)—see Andropogon.

Lemon Oil-plant (*Citrus Limonum*)—see Citrus.

Lemon-scented Gum-tree (*Eucalyptus maculata citriodora*)—see Eucalyptus.

Lemon-scented Magnolia (*Magnolia citriodora*)—see Magnolia.

Lemon-scented Thyme (*Thymus citriodorus*)—see Thymus.

Lemon-scented Verbena (*Aloysia citriodora*)—see Aloysia.

Lemon-tree (*Citrus Limonum* & *Aloysia citriodora*)—see Citrus & Aloysia.

Lens (Lentils).—*Ord.* Leguminosæ. Hardy annual. *Nat.* Mediterranean. *Int.* 1548. *Ht.* 6 to 18 in. *Species* cultivated, 1. *Flowers*, pale blue; June to Aug. *Leaves*, feather-shaped. *Pods*, about $\frac{3}{4}$ in. long, $\frac{1}{2}$ in. broad, containing two seeds. *Seeds*, edible, used chiefly in soups, etc. *Soil*, light, ordinary. *Position*, sunny borders. *Sow* seeds 2 in. deep & 2 in. apart in drills 18 in. asunder early in Ap. *Allow* the plants to grow till quite yellow, then pull up, dry thoroughly in the sun, gather pods & store in a dry place till required for use.

Lent Lily (*Narcissus pseudo-narcissus*)—see Narcissus.

Lent Rose (*Narcissus pseudo-narcissus*)—see Narcissus.

Lenten Rose (*Helleborus colchicus*)—see Helleborus.

Lentils (*Lens esculentea.* Also known as *Ervum Lens*)—see Lens.

Leonotis (Lion's Ear, Lion's Tail).—*Ord.* Labiatæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1712. *Ht.* 2 to 5 ft. *Species* cultivated, 1. *Flowers*, scarlet; Oct. to Mar. *Compost*, two parts rich loam, one part equal proportions of leaf-mould, charcoal, & silver sand. *Position*, well drained pots in light airy part of greenhouse, Sept. to June; sunny place outdoors, June to Sept. *Pot*, Mar. or Ap. *Prune* into shape after flowering. *Water* moderately, Ap. to Sept.; very sparingly afterwards. *Temp.*, Sept. to Ap., 40° to 50°; Ap. to June, 55° to 65°. *Propagate* by cuttings of shoots inserted in light sandy soil in temp. 55° to 65° in Mar. or Ap. *Young* plants require tops of shoots to be removed occasionally to induce bushy growth.

Leontice (Lion's Leaf, Lion's Turnip).—*Ord.* Berberidaceæ. Hardy tuberous-rooted perennials. *Nat.* Altai Mountains, Levant. *Int.* 1597. *Ht.* 3 to 12 in. *Species* cultivated, about 3. *Flowers*, yellow; Mar. to June. *Soil*, equal parts sandy loam, leaf-mould, & sand. *Position*, sheltered sunny rockery. *Plant* tubers in Sept. or Oct.; base only of tuber to be buried in the soil, leaving the upper part exposed. *Mulch* with cocoanut-fibre refuse or decayed leaves in sum., & protect tubers with covering of ashes in winter. *Propagate* by offsets removed & planted in Sept. or Oct.

Leontopodium (Edelweiss, Lion's-foot).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Alps. *Int.* 1776. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow, inconspicuous, but surrounded by a white, cottony, star-shaped involucre; June to Aug. *Soil*, well drained, sandy. *Position*, exposed sunny rockeries. *Plant*, Mar. or Ap. *Protect* from heavy rains in autm. & winter by placing a square of glass, supported by sticks at each corner, a few inches above the plants. *Gather* flowers in Aug., & dry for preserving. *Best results* are obtained by raising fresh plants from seed annually, or by dividing old plants in spring. *Propagate* by seeds sown in Mar. in a well-drained pan of fine loam, leaf-mould, & granite chips, placed under a hand-light, or in a cold frame in a cool shady spot, transplanting seedlings outdoors in Aug. or Sept.; by division of plants in Ap.

Leopard's-bane (*Doronicum Pardalianches*)—see Doronicum.

Leopard's-bane Groundsel (*Senecio Doronicum*)—see Senecio.

Leopard Lily (*Lachenalia tricolor*)—see Lachenalia.

Leptinella.—*Ord.* Compositæ. Hardy perennial shrub. Orn. foliage. *Nat.* New Zealand, Auckland Island. *Int.* date unknown. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, yellow, June to Aug. *Leaves*, narrow, feather-shaped, dark green. *Soil*, ordinary. *Position*, sunny; as edgings or ground work for carpet beds. *Plant*, Ap., May, or June. *Propagate* by division of roots in Sept. & Oct. or Ap. & May.

Lepidium (Cress).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Persia. *Int.* 1548. *Ht.* 3 to 15 in. *Species* cultivated, 1; varieties several. *Flowers*, white; June. *Leaves*, finely divided, agreeably flavoured & largely used in conjunction with mustard for salads. *Outdoor culture: Soil*, ordinary. *Position*, open borders. *Sow* seeds on surface of soil, water, and cover with mats or boards until they germinate; or in drills ½ in. deep. & 6 in. apart. *Make* first sowing end of Mar., follow with successional sowings every 10 days until Sept., then cease. *Gather* for salading when 1 in. high. Two crops sufficient off one piece of ground. *Indoor culture: Sow* seed on surface of light soil in shallow boxes, moisten with tepid water, cover with sheet of paper, slate, or board, & place in warm position in greenhouse or room. Sow for succession every 7 days. Two crops may be grown in same soil. Seeds may be sown on flannel kept moist in a warm room, at any time of year.

Leptosiphon.—*Ord.* Polemonaceæ. Hardy annuals. *Nat.* California. *Int.* date unknown. *Ht.* 9 to 12 in. *Species* cultivated, 3; varieties several. *Flowers*, rose, golden yellow, lilac, pink, white; June to Sept. *Soil*, ordinary. *Position*, as edgings to sunny beds or borders or ledges of rockeries. *Propagate* by seeds sown in Mar., where plants are required to grow, slightly covering with fine mould.

Leptosyne.—*Ord.* Compositæ. Hardy annual & perennial. *Nat.* California. *Int.* date unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant*, perennial species in Oct. or Mar.; annual species, May or June. *Propagate* both species by seeds sown ⅛ in. deep. in light soil in temp. 65° to 75° in Mar.; transplant seedlings when 1 in. high, 2 in. apart in boxes of light soil, & keep in cool greenhouse till May or June, then plant outdoors.

Leptotes.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil. *Int.* date unknown. *Ht.* 4 to 8 in. *Species* cultivated, 2. *Flowers*, white; Jan. to Ap. *Compost*, equal parts fibrous peat, sphagnum moss, & charcoal. *Position*, light, fastened by copper wire to small blocks of teak, & roots covered with sphagnum moss; or in small well drained pots or teak baskets. *Place* on blocks, or in pots or baskets in Mar. *Temp.*, Nov. to Feb., 45° to 55°; Mar. to May, 50° to 60°; May to Nov., 55° to 65°. *Water* once a week, Nov. to Feb.; twice Feb. to Ap.; daily Ap. to Nov. *Propagate* by division of plants in Mar.

Leschenaultia.—*Ord.* Goodenaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1824. *Ht.* 12 to 18 in. *Species* cultivated, 2; variety, 1. *Flowers*, blue, scarlet; June to Sept. *Compost*, two parts fibrous peat & one part silver sand. *Pot*, Mar. or Ap. *Position*, well drained pots in light sunny greenhouse. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Water* sparingly, Oct. to Ap.; moderately afterwards; use soft water only. *Manures* or stimulants not required. *After flowering*, nip off the points of the shoots. *Repotting* only necessary every second year. *Firm potting* essential. *Ventilate* freely in fine weather. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 50° to 55°.

Lespedeza (Purple Broom, Japanese Clover).—*Ord.* Leguminosæ. Hardy flowering shrubs. Deciduous. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, rosy-purple, Sept. to Oct. *Soil*, sandy loam. *Position*, sheltered sunny borders. *Plant*, Oct. or Nov., Feb. or Mar. *Prune* slightly after flowering. *Propagate* by seeds sown ½ in. deep in light soil in a sheltered position outdoors in Feb. or Mar.; cuttings inserted in heat in spring; layering Sept. or Oct.

Letter-leaf (*Grammatophyllum speciosum*)—see Grammatophyllum.

Letter-plant (*Grammatophyllum speciosum*)—see Grammatophyllum.

Lettuce (*Lactuca sativa*)—see Lactuca.

Leucanthemum (Ox-eye Daisy).—*Ord.* Compositæ. Hardy perennial. *Nat.* Alps. *Int.* 1759. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by division of roots, Oct. or Ap.

Leucojum (Bulbous Violet, Snowflake, Summer Snowdrop).—*Ord.* Amaryllidaceæ. Hardy bulbous plants. *Nat.* C. & S. Europe (S. of England). *Int.* (foreign species) 1596. *Ht.* 4 to 18 in. *Species* cultivated, 2; varieties several. *Flowers*, white, green, fragrant; Mar. to July. *Soil*, ordinary rich. *Position*, Summer Snowflake (L. æstivum) in sunny or shady borders or woodlands; Spring Snowflake (L. vernum) in shady borders or on rockeries. *Plant*, bulbs 4 in. deep, & 3 in. apart, Aug. to Nov. *Bulbs* do not usually flower first year after planting, and only require to be lifted &

replanted every five to eight years. *Propagate* by offsets. removed & replanted in Sept. or Oct.

Leucophyta.—*Ord.* Compositæ. Hardy trailing plant. Orn. foliage. *Nat.* New Holland. *Int.* date unknown. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, insignificant. *Foliage*, whipcord-like, covered with dense silvery tomentum. *Soil*, ordinary. *Position*, edgings, bands, or lines for carpet beds. *Plant*, May or June. *Lift* & store in cold frame for winter in Sept. *Propagate* by division of plants in Mar. or Ap.

Leucopogon (Australian Currant).—*Ord.* Epacridaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1815. *Ht.* 2 to 6 ft. *Species* cultivated, about 3. *Flowers*, white, pink; June to Aug. & Nov. to Ap. *Compost*, three-fourths fibry peat, one-fourth silver sand. *Position*, light airy greenhouse Sept. to July, sunny place outdoors July to Sept. *Repot*, Ap., May, or June; good drainage essential. *Prune* shoots of erect kinds to within 1 in. of base directly after flowering; pendulous kinds about half-way. *Water* moderately at all times. *Syringe* plants daily, Mar. to July. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to July, 55° to 60°. *Stimulants* not essential. *Propagate* by seeds sown immediately they ripen on surface of sandy peat under bell-glass in temp. 55°: cuttings of ends of shoots inserted in pots of sandy peat covered with bell-glass placed in cool greenhouse in Aug. or Ap.

Leucostegia.—*Ord.* Filices. Evergreen & deciduous ferns. *Nat.* Ceylon, N. India, Borneo. *Int.* date unknown. *Ht.* 12 to 18 in. *Species* cultivated, about 5. *Fronds* finely divided, light, graceful. *Compost*, two parts peat, one each of loam, leaf-mould, & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in shady part of greenhouse. *Water* moderately. Oct. to Feb.; freely afterwards. *Syringing* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by spores sown on surface of pans of sandy peat in temp. 55° to 65° any time; division of rhizomes, Feb. or Mar.

Leucothoë.—*Ord.* Ericaceæ. Hardy flowering shrubs. Evergreen. *Nat.* N. America, Japan. *Int.* 1765. *Ht.* 2 to 8 ft. *Species* cultivated, 6. *Flowers*, white, May to July. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open sheltered borders. *Plant*, Sept., Oct., Mar., or Ap. *Pruning* not necessary. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in cold frame, Feb. or Mar.; layering shoots in Sept.; division, Oct. or Nov.

Lewisia (Bitter-wort, Spatlum).—*Ord.* Portulacaceæ. Hardy herbaceous perennial. *Nat.* North West America. *Int.* 1826. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, rose, white, 1 to 2½ in. in diameter; June to Sept. *Soil*, equal parts sandy loam, peat, & sand. *Position*, crevices of moist sunny rockeries. *Plant*, Sept., Oct., Mar., or Ap. *Water* occasionally in dry weather. *Leaves* wither at the time of flowering, or may not be produced at all. *Growing period* above ground, about six weeks. *Propagate* by seeds sown in well drained pans of sandy loam & peat in a cool shady frame in Mar. or Ap.; division of the roots in Mar. or Ap.

Leycesteria (Himalayan Honeysuckle, Flowering Nutmeg).—*Ord.* Caprifoliaceæ. Hardy-flowering shrub. Deciduous. *Nat.* Himalayas. *Int.* 1824. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, white & purple; May to Aug.; succeeded by purple berries in autn. *Soil*, ordinary. *Position*, sunny sheltered borders. *Plant*, Oct., Nov., Feb., or Mar. *Prune* into shape after flowering. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 45° to 55° in Mar. or Ap.; cuttings of side shoots inserted in light soil & similar temp. in Ap., also of firm shoots inserted in sandy soil under hand light in Sept. or Oct.

Liatris (Button Snake-root, Blazing Star).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* N. America. *Int.* 1732. *Ht.* 1 to 3 ft. *Species* cultivated, 6; varieties 2. *Flowers*, purple, white; June to Oct. *Soil*, light, rich, ordinary. *Position*, open sunny beds or borders. *Plant*, Oct., Nov., Mar., or

Ap. *Cut* off decayed flower stems in Oct. *Mulch* with decayed manure in Ap. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil outdoors in Aug. or Sept., transplanting seedlings the following May; division of plants in Mar. or Ap.

Liberian Coffee-tree (*Coffea liberica*)—see Coffea.

Libertia.—*Ord.* Iridaceæ. Hardy evergreen perennials. Flowering & orn. foliage. *Nat.* Chili, New Zealand, Australia. *Int.* 1823. *Ht.* 1 to 4 ft. *Species* cultivated, 5. *Flowers*, white, borne in panicles; Ap. to Aug. *Leaves*, sword-shaped or grass-like, graceful, dark green. *Soil*, equal parts sandy loam, peat, and leaf-mould. *Position*, well drained sunny borders, or preferably, rockeries. *Plant*, Sept., Oct., Mar., or Ap. *Protect*, Nov. to Ap., by covering with dry fern, tree leaves, or strawy manure. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in cold frame or greenhouse, Aug. to Nov.; division of creeping rhizomes, Mar. or Ap.

Libocedrus (Incense Cedar, Chilian Arbor-vitæ, White Cedar, New Zealand Arbor-vitæ).—*Ord.* Coniferæ. Hardy & half-hardy evergreen trees. Orn. foliage. *Nat.* Chili, California, New Zealand, Patagonia. *Int.* 1847. *Species* cultivated, 4. *Leaves*, scale-like, flat, glossy or milk-green. *Habit*, pyramidal or column-like. *Cones*, small, oblong. *Soil*, rich loam; subsoil, gravelly. *Position*, warm, sheltered; as single specimens on lawns. *Plant*, Sept. to Nov. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans of sandy soil in cold frame or greenhouse, Oct. to Ap.; cuttings of firm shoots or branchlets inserted in sandy soil in cold frame or under hand light in Aug. or Sept.

Libonia.—*Ord.* Acanthaceæ. Greenhouse shrubby flowering plants. Evergreen. *Nat.* Brazil. *Int.* 1862. *Ht.* 1 to 2 ft. *Species* cultivated, 1; hybrid variety, 1 *(L. Penrhosiensis)*. *Flowers*, scarlet, crimson, yellow; Oct. to Mar. *Compost*, equal parts turfy loam, leaf-mould, or decayed manure & little sand. *Position*, light part of greenhouse, Sept. to June; Sunny cold frame, June to Sept. *Pot*, Mar. or Ap. in 5-in. or 6-in. sizes. *Prune* shoots after flowering to within 1 in. of base. *Water* moderately, Oct. to Ap.; freely afterwards. *Apply* weak stimulants once or twice weekly during flowering period. *Syringe* foliage twice daily, Mar. to Sept. *Temp.*, Sept. to Mar., 50° to 60°; Mar. to June, 60° to 70°. *Propagate* by cuttings of young shoots 1 in. to 2 in. long, inserted in well drained pots filled with sandy soil in temp. 75° to 85°, Feb. to May.

Licuala (Penang Lawyers).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Pulo Penang, Indian Archipelago, New Britain, Sumatra. *Int.* 1802. *Ht.* 4 to 10 ft. *Species* cultivated, about 6. *Leaves*, fan-shaped, green. *Compost*, two parts peat & one of loam & sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* twice daily, Mar. to Sept.; once daily, Sept. to Mar. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$-in. deep in light rich soil in temp. 80° to 90°, Feb., Mar., or Ap.

Life-everlasting (*Gnaphalium americanum*)—see Gnaphalium.

Life-root (*Senecio aurens*)—see Senecio.

Ligularia (Japanese Silver-leaf).—*Ord.* Compositæ. Hardy herbaceous perennials. Orn. foliage. *Nat.* Japan, Caucasus. *Int.* 1831. *Ht.* 1 to 3 ft. *Species* cultivated, 2; variety 1. *Flowers*, yellow; Aug. to Oct. *Leaves*, roundish, heart-shaped, & oval, green or variegated with yellow, white, & rose. *Soil*, peaty. *Position*, moist sheltered borders; variegated kind (*L. Kœmpferi aureo-maculata*) best grown in pots in greenhouse, Sept. to May, then planted outdoors during sum. *Plant*, Mar. to June. *Propagate* by division of plants in Sept., Oct., Mar., or Ap.

Ligurian Bell-flower (*Campanula isophylla*)—see Campanula.

Ligustrum (Privet).—*Ord.* Oleaceæ. Hardy deciduous & evergreen shrubs. Orn. foliage & flowering. *Nat.* Europe (Britain), California, Japan, China, N. Africa. *Int.* (foreign species) 1794. *Ht.* 3 to 12 ft. *Species* cultivated, 4 evergreen, 1 deciduous; varieties, evergreen, 5, deciduous, 5.

Flowers, white, borne in terminal panicles, fragrant; June to Oct. *Berries* round, shining, black or yellow. *Leaves*, oblong, oval, & pointed, green, or variegated with white or yellow. *Soil*, loam or good ordinary. *Position*, common species in shrubberies, under shade of trees, in open or as hedges; others in open shrubberies. *Plant*, deciduous kinds, Oct. to Feb.; evergreen kinds, Oct. to Ap. *Prune* deciduous kinds in autn., evergreens in Ap. *Hedge culture: Soil*, ordinary, trenched two spits deep & 3 ft. wide. *Plant*, privet (1 to 3 ft. high) 6 to 9 in. apart, Oct. to Ap. *Trim* into shape, June & July. *Varieties* suitable, Common Privet (*L. vulgare*), Evergreen Privet (*L. v. sempervirens*), Oval-leaved Privet (*L. ovalifolium*). Also suitable shrubs for growing in town gardens. *Propagate* by seeds (berries) sown 1 in. deep in open ground in Nov., transplanting largest seedlings the following Oct., the remainder next year; cuttings of young shoots 2 to 4 in. long, inserted in a shady position outdoors or under a hand light, in sum.; also cuttings of firm shoots 8 to 12 in. long, inserted in shady position in ordinary soil outdoors, Sept. to Nov.; layering shoots in Sept. or Oct.

Lilac (*Syringa vulgaris*)—see Syringa.

Lilac Mariposa-lily (*Calochortus lilacinus*)—see Calochortus.

Lilac Star-flower (*Triteleia lilacina*)—see Triteleia.

Lilium (Brown's Lily, Gold-striped Lily, Bulb-bearing Lily, Californian Lily, Yellow American Lily, Bourbon Lily, Madonna Lily, White Lily, Carniola Lily, Carolina Lily, Scarlet Martagon Lily, Crimson-anthered Lily, Japanese Red-Star Lily, Heart-leaved Lily, Common Orange Lily, Saffron-coloured Lily, Black Martagon Lily, Siberian Orange Lily, Transparent Trumpet Lily, Giant Lily, Bermuda Easter Lily, Humboldt's Lily, Japanese Lily, Kramer's Lily, Spear-leaved Japanese Lily, Max-Leichtlin's Lily, Trumpet Lily, Martagon Lily, Caucasican Lily, Neilgherry Lily, Panther Lily, Parry's Lily, Wild Orange Lily, Himalayan White Lily, Turban Lily, Pyrenean Lily, Spotted Lily, Swamp Lily, Tom Thumb Lily, Nankeen Lily, Tiger Lily, Umbel-flowered Lily, Washington Lily, Wilson's Lily, St. Joseph's Lily).—*Ord.* Liliaceæ. Hardy and half hardy bulbous flowering plants. *Nat.* N. America, Europe, Japan, China, Mongolia, India, Persia, Philippine Islands. *Int.* 1596. *Ht.* 1 to 10 ft. *Species* cultivated, 37; varieties about 60. *Flowers*, crimson, red, scarlet, yellow, orange, white, purple, rose, black; fragrant in some cases; May to Oct. *Classification of Liliums:* Erect, cup-shaped flowers (Isolirion group).—L. bulbiferum, L. Catesbæi, L. concolor & vars., L. davuricum & vars., L. philadelphicum, L. elegans & vars. Trumpet-shaped flowers (Eulirion group).—L. Browni, L. candidum & vars., L. cordifolium, L. giganteum, L. Krameri, L. longiflorum & vars., L. Parryi, L. Washingtonianum & var. Recurved flowers (Martagon group).—L. canadense, L. carniolicum, L. carolineum, L. chalcedonicum, L. Hansoni, L. Humboldti, L. Leichtlini, L. martagon & vars., L. monadelphum & var., L. pomponum, L. pyrenaicum, L. superbum & vars., L. tenuifolium, L. testaceum. Flowers drooping (Archelirion group).—L. auratum & vars., L. speciosum & vars., L. tigrinum & vars., L. Thomsonianum. *Outdoor culture: Soil*, ordinary, enriched with decayed manure, for L. bulbiferum, L. candidum, L. chalcedonicum, L. croceum & L. testaceum; rich loam for L. auratum, L. martagon, L. monadelphum, L. pomponum, L. tenuifolium, L. tigrinum, & L. pyrenaicum; loam, peat, & leaf-mould for L. Browni, L. giganteum, L. davuricum, L. Hansoni, L. Krameri, L. longiflorum, L. Parryi, L. pardalinum, L. polyphyllum, L. speciosum, L. superbum, L. Leitchlini, L. philadelphicum. Peat, leaf-mould, & sand for L. canadense, L. concolor, L. Humboldti, L. Washingtonianum, & L. Catesbæi. *Position*, shady beds or borders for L. Browni, L. canadense, L. Hansoni, L. pardalinum, L. auratum, L. concolor, L. polyphyllum, L. superbum, L. Washingtonianum, L. Leichtlini, L. philadelphicum, L. Catesbæi; others in sun or shade. *Plant*, Oct. to Mar., in groups of three, six, or twelve bulbs. *Depth* for planting bulbs, 4 in. on cold soils; 6 in. on light soils. *Distance* from bulb to bulb 6 in. *Special beds :* Remove soil to depth of 18 in. and circumference of 12 in. for 3 bulbs, 24 in. for 6 bulbs, 3 feet for 12 bulbs. *Place* 6 in. of cow manure in bottom & compost on this. In case of heavy wet subsoils, allow surface of bed to rise 4 in. above ordinary level. *Mulch* with decayed cow manure in Ap., first removing few inches of surface soil. *Protect* choice kinds during winter with covering of cinder ashes or strawy manure. *Cut down* flower stems when leaves turn yellow. *Water* in very dry weather. *Apply* liquid manure once or twice weekly when plants are in flower. *Treatment of imported bulbs :* Remove injured scales & surround bulbs with thin layer of cocoanut-fibre refuse in shallow box in cool position until latter become plump, then plant out. *Transplant* L. candidum in Aug. or Sept.; others in Oct. or Nov. Lilies should only be transplanted when unhealthy. *Pot culture : Compost*, equal parts loam, peat, leaf-mould, decayed manure, & sand. *Pot*, Sept. to Mar., placing one bulb of L. auratum, L. speciosum, or L. Harrisi, in a 5 or 6-in. pot, or three in an 8 or 10-in. pot; and three of L. longiflorum, L. philippense, or L. neilgherrense, in a 6 or 8-in. pot. *Put* ¼ drainage, then half fill with compost, place bulbs thereon, & cover with ½ in. of compost. *After potting*, place pots in cold frame, greenhouse, or shed, & cover with 2 in. of cinder ashes or cocoanut-fibre refuse. Allow them to remain thus till growth begins, then remove to light airy part of greenhouse or to a window or cool room till they flower, or until June, then stand outdoors. *Water* moderately when growth begins; freely when in full growth. *Top-dress* with compost of equal parts loam, leaf-mould, & decayed manure when shoots are 3 in. high, filling pots to within ½ in. of rim. *Apply* liquid manure twice weekly to plants in full growth. *Suitable stimulants :* Soot-water, guano-water (½ oz. to a gallon), liquid cow or horse manure. *Temp.* for forcing L. Harrisi, L. neilgherrense & L. philippense, 55° to 65°. *Repot* L. Harrisi annually in Sept.; others in Oct. or Nov., & treat as advised for first potting. *After flowering*, place plants in sunny position outdoors, gradually withhold water, & keep quite dry from Oct. to Feb. *L. Harrisi* should, however, never be kept quite dry, only moderately for six weeks, then watered as before. *Newly imported bulbs* treat as advised for outdoor culture. *Best kinds for pot culture :* L. auratum, L. speciosum, L. longiflorum, L. l. Harrisi, L. neilgherrense, L. philippense. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pans or boxes of sandy soil in cold frame in autn. or spring, transplanting seedlings when large enough to handle into similar soil in boxes, & in specially prepared bed outdoors when two years old; offsets or bulbils, planted an inch deep & two or three inches apart in boxes of sandy soil, or in similar soil in sunny cold frame in autn. Seedlings flower when six to seven years old; offsets or bulbils when three to five years old.

Lilliputian Laburnum-tree (*Cytissus Ardoinii*) —see Cytissus.

Lily-conval (*Convallaria majalis*)—see Convallaria.

Lily-flowered Magnolia (*Magnolia conspicua*)—see Magnolia.

Lily Grass (*Arum maculatum & Butomus umbellatus*)—see Arum & Butomus.

Lily Leek (*Allium moly*) – see Allium.

Lily Oil-plant (*Lilium candidum*)—see Lilium.

Lily Thorn (*Catesbæa spinosa*)—see Catesbæa.

Limatodes.—*Ord.* Orchidaceæ. Stove terrestrial orchid. Deciduous. *Nat.* Moulmein. *Int.* 1850. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, dark rose; Oct. to Feb. *Compost*, equal parts peat & leaf-mould, & little sand. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Pot*, Mar. or Ap *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely Ap. to Sept.; moderately Sept. to Jan.; keep quite dry Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period :* Mar. to Oct.; resting period, Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Lime-fruit-tree (*Citrus medica acida*)—see Citrus.

Limestone Fern (*Polypodium calcareum*)—see Polypodium.

Lime Tree (*Tilia europæa*)—see Tilia.

Limnanthemum (Marsh-flower, Fringed Buck-Bean, Fringed Water Lily, Water-Fringe).—*Ord.* Gentianaceæ. Hardy floating aquatics. Perennial. *Nat.* Britain. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Leaves*, roundish or heart-shaped. *Soil*, muddy. *Plant*, Mar. or Ap. *Propagate* by seeds sown in mud in Sept.; division of plants in Mar. or Ap.

Limnanthes.—*Ord.* Tropæolaceæ Hardy Annual. *Nat.* California. *Int.* 1833. *Ht.* 6 to 8 in. *Species* cultivated, 1; varieties about 3. *Flowers*, yellow, white, grey, fragrant; Mar. to Oct. *Soil*, ordinary. *Position*, in mosses or as edgings to sunny beds, or on rockeries. *Sow* for Spring flowering in Sept. For sum. flowering in Ap. *Propagate* by seeds sown where plants are required to flower $\frac{1}{16}$ in. deep in Sept. or Ap.

Limnocharis.—*Ord.* Alismaceæ. Greenhouse & hardy herbaceous aquatics. *Nat.* S. America. *Int.* 1822. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, yellow; June to Nov. *Culture of greenhouse species* (*L. Plumieria*): *Compost*, two parts sandy loam, one part leaf mould & sand. *Position*, in shallow tubs, cisterns, or aquariums. *Plant*, 6 to 9 in. below surface of water, in Mar. or Ap. *Temp*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Culture of hardy species* (*L. Humboldti*): *Compost*, two parts loam & one part leaf-mould. *Position*, in sunny shallow ponds, or in tubs sunk in ground. *Plant*, 6 in. below surface of water, in Mar. or Ap. In cold districts plants are best removed into greenhouse & kept in tub of water during winter. *Propagate* by seeds sown in soil below water in Mar. or Ap.; division of plants in Ap.

Linaria (Toad-flax, Ivy-wort, Mother o' Thousands, Mother o' Millions, Oxford Weed, Penny-wort, Butter & Eggs, Eggs & Bacon, Eggs & Butter, Dragon Bushes, Buttered Haycocks).—*Ord.* Scrophulariaceæ. Hardy shrubby or trailing perennial herbs & annuals. *Nat.* Europe (Britain), Asia Minor, Morocco. *Int.* (foreign species) 1641. *Ht.* 1 in. to 4 ft. *Species* cultivated, about 8 perennials, 5 annuals. *Flowers*, violet, blue, purple, white, yellow; May to Oct. *Culture of perennial species*: *Soil*, ordinary, mixed with grit or old mortar. *Position*, moist rockeries or margin of borders for L. alpina, L. pilosa, L. crassifolia, & L. organifolia; sunny or shady walls for L. cymbalaria; open sunny borders for L. dalmatica, L. purpurea, L. vulgaris, & L. triornithophora. *Plant*, Oct., Nov., Mar., or Ap. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in patches in Ap., for flowering in sum.; in Aug., for flowering in spring. *L. tristis*, a pretty dwarf annual for beds or rockeries. *Pot culture of L. cymbalaria*: *Compost*, two parts loam, one part of equal proportions of dried cow manure, old mortar, & sand. *Sow* seeds $\frac{1}{16}$ in. deep in 3 or 5 in. pots in Mar. or Ap. *Place* pots in shady window or greenhouse until seedlings appear, then remove to light & suspend in a basket. *Water* moderately at first, freely afterwards; keep nearly dry during winter. This species is a perennial. *Propagate* perennial species by seeds sown in ordinary soil in sunny position outdoors in Sept., Mar., or Ap.; division in Oct. or Ap.

Lindelofia (Himalayan Lung-wort). — *Ord.* Boraginaceæ. Hardy perennial herb. *Nat.* Cashmere. *Int.* 1839. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, purple, red; May to Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar., or Ap. *Cut* off flower stems, Sept. *Apply* weak liquid manure occasionally during flowering period, or dig decayed manure into surface of soil round base of plants in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in sunny position outdoors in Ap. or May, transplanting seedlings following Aug. or Sept. for flowering the next year; division of roots in Mar.

Linden Tree (*Tilia europæa*)—see Tilia.

Lindera (Benjamin Bush, Spice Bush).—*Ord.* Lauraceæ. Hardy flowering tree. Deciduous. *Nat.* N. America. *Int.* 1683. *Ht.* 6 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow, appearing before the leaves; Mar. *Soil*, ordinary. *Position*, open sunny shrubberies or borders. *Plant*, Oct. to Feb. *Prune* into shape when necessary after flowering. *Propagate* by cuttings of shoots, 6 to 8 in. long, inserted in sandy soil in shady sheltered position outdoors, Oct. to Nov.; layering in Sept. or Oct.

Lindsæa.—*Ord.* Filices. Stove evergreen ferns. *Nat.* W. Indies, Malayan Archipelago, Brazil, French Guiana. *Ht.* 6 to 24 in. *Species* cultivated, about 6. *Fronds*, feather, kidney, or arrow-shaped. *Compost*, two parts turfy loam, one part lumpy peat, & one part equal proportions of broken crocks, charcoal, & sand. *Position*, moist shady part of stove, in wardian case, or under bell-glasses. *Pot* very firmly in well drained pots, Feb. or Mar. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. *Propagate* by spores sown on fine sandy peat, in well drained pans under bell-glass, in temp. 70° to 80°, at any time.

Lindsaya.—An alternative method of spelling Lindsæa, which see.

Ling (*Calluna vulgaris*)—see Calluna.

Ling Heath (*Calluna vulgaris*)—see Calluna.

Linnæa (Twin-flower).—*Ord.* Caprifoliaceæ. Hardy trailing flowering shrub. Evergreen. *Nat.* N. of Europe (Scotland), Asia, & America. *Species* cultivated, 1. *Flowers*, white, pink, fragrant; May to July. *Soil*, sandy peat. *Position*, moist rockeries or banks, or as edgings to beds of N. American shrubs. *Plant*, Oct. to Mar. *Water* freely in dry weather. *Pot culture: Compost*, two parts peat & one part leaf-mould & little silver sand. *Position*, well drained pots, with shoots trained to trellises or stakes, or suspended in baskets in cool or unheated greenhouse or frame. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by division of plants in Oct. or Mar.

Linosyris (Goldilocks).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Northern Hemisphere (Britain). *Ht.* 12 to 15 in. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Soil*, sandy peat. *Position*, sunny well drained borders or rockeries. *Plant*, Mar. *Propagate* by cuttings of shoots of current year's growth inserted in sandy peat under bell-glass in temp. 55° in June, July, or Aug. Modern botanists place this plant in the genus *Chrysocoma*.

Lippia.—Modern generic name for Aloysia (Lemon-scented Verbena), which see.

Linseed Oil-plant (*Linum usitatissimum*)—see Linum.

Linum (Flax, Linseed Oil-Plant).—*Ord.* Linaceæ. Hardy annuals, herbaceous perennials & greenhouse shrubs. *Nat.* Europe (Britain), N. Africa, Chili, New Zealand, Caucasus. *Int.* (foreign species) 1739. *Ht.* 6 in. to 4 ft. *Species* cultivated, 2 annuals, 5 perennials; 6 hardy & 1 greenhouse shrubs. *Flowers*, yellow, blue, rose, white; May to Aug. & (L. trigynum) Oct. to Feb. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds ⅛ in. deep in Ap., in lines or masses where plants are required to flower. *Culture of perennial species*: *Soil*, good ordinary. *Position*, sunny rockeries, borders, or banks. *Plant*, Oct. to Dec. or Feb. to Ap. *Culture of hardy shrubby species*: *Soil*, sandy loam, leaf-mould, peat, & sand. *Position*, warm sheltered rockeries or borders. *Plant*, Oct. or Nov. *Prune* straggy shoots into shape, Mar. or Ap. *Protect* in severe weather with covering of bracken, straw or leaves. *Culture of greenhouse species* (L. trigynum): *Compost*, equal parts loam & peat, little sand. *Pot*, Mar. or Ap. *Prune* previous year's shoots to within 1 in. of their base in Feb. or Mar. *Position*, warm greenhouse, Sept. to June; cold sunny frame, June to Sept. *Water* moderately, Oct. to Mar.; freely other times. *Syringe* twice daily, Feb. to Sept. *Apply* weak stimulants occasionally when in flower. *Temp.*, Sept. to Feb., 55° to 65°; Feb. to June, 65° to 75°. *Nip* off points of young shoots in June to induce bushy growth. *Culture of L. grandiflorum in pots: Soil*, two parts good mould, one part decayed manure & sand. *Sow* seeds $\frac{1}{16}$ in. deep in Ap. in 6 in. pots, filled with above compost to within ½ in. of rim. *Place* pots in cold frame or shady window till seedlings appear, then remove to full light. *Water* moderately at first, freely afterwards. *Apply* weak stimulants when in flower. *Support* shoots by inserting small twiggy branches between them. *Sow* again in July, plunging pots to rim in garden soil, and keep well supplied with water to flower in autn. *Propagate* perennial species by seeds sown ⅛ in. deep outdoors in Ap., also by division in Mar. or Ap.; shrubby species by cuttings of young shoots inserted in sandy soil under bell-glass outdoors in sum.; greenhouse species (L. trigynum) by cuttings of shoots two to three inches long, inserted in sandy soil under bell-glass in temp. 65° to 75° in Ap. or May.

Lion's-ear (*Leonotis Leonurus*)—see Leonotis.

Lion's-foot (*Leontopodium alpinum*)—see Leontopodium.

Lion's-leaf (*Leontice leontopetalum*)—see Leontice.

Lion's-tail (*Leonotis leonurus*)—see Leonotis.

Lion's-turnip (*Leontice leontopetalum*)—see Leontice.

Lion's-mouth (*Antirrhinum majus*)—see Antirrhinum.

Liquidambar (Bilsted, Copalm Balsam-tree, Sweet Gum-tree).—*Ord.* Hamamelidaceæ. Hardy deciduous tree. Orn. foliage. *Nat.* N. America. *Int.* 1681. *Ht.* 20 to 50 ft. *Species* cultivated, 1. *Flowers*, greenish yellow, inconspicuous; spring. *Leaves*, hand-shaped, downy, very fragrant. *Soil*, deep moist loam. *Position*, sheltered in shrubberies or on lawns. *Plant*, Oct. to. Dec. *Prune* into shape when necessary in Nov. *Propagate* by seeds sown ⅛ in. deep in sandy soil outdoors, Oct., Nov., Mar. or Ap., transplanting seedlings two to three years afterwards; layering shoots, Sept. to Nov.

Liquorice-plant (*Glycyrrhiza glabra*)—see Glycyrrhiza.

Liriodendron (Tulip-tree, Lyre-tree, Saddle-tree, Western Poplar, Yellow Poplar).—*Ord.* Magnoliaceæ. Hardy deciduous tree. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1668. *Ht.* 50 to 100 ft. *Species*, cultivated, 1. *Flowers*, large, pale green, yellow, orange, very fragrant; June to Aug. *Leaves*, saddle-shaped, bright green. *Soil*, sandy loam, *Position*, sunny, sheltered shrubberies or as specimen on lawns. *Plant*, Oct. to Feb. *Prune* straggling shoots only into shape, Nov. or Dec. *Propagate* by seeds sown ¼ in. deep, in moist sandy loam in sheltered position outdoors, Sept. to Nov.; layering in Oct. to Nov.

Lisianthus.—*Ord.* Gentianaceæ. Greenhouse evergreen-flowering shrubs & biennial. *Nat.* New Grenada, Mexico. *Int.* 1804. *Ht.* 1 to 5 ft. *Species* cultivated, 2 shrubs, 1 biennial. *Flowers*, scarlet, purple, yellow, green; July to Sept. *Culture of shrubby species: Compost*, two parts peat, & one part each of loam, well-decayed manure, leaf-mould, & sand. *Position*, well drained pots in light airy part of greenhouse. *Pot*, Feb. or Mar. *Prune* slightly into shape, Feb. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *Temp*, Mar. to Sept., 60° to 75°; Sept. to Mar. 50° to 60°. *Culture of biennial species* (*L. Russellianus*): *Sow* seeds on surface of sandy peat & leaf-mould in well drained pot or pan in temp. of 60° to 70°, Feb. to Ap. *Cover* pot or pan with square of glass, & shade from bright sun & keep moderately moist. *Transplant* seedlings when they form three or four leaves singly into 2 in. pots. *Compost*, same as for shrubby species. *Plunge* pots to rims in cocoanut fibre refuse over hotbed for a few weeks, then place on shelf near glass. *Water* carefully at all times. *Transfer* into 6 or 8 in. pots following Mar. for flowering. *Temp.*, same as for shrubby species. *Propagate* shrubby species by seeds sown as directed for biennial species; cuttings of half-ripened shoots, 2 to 3-in. long, inserted in pots of sandy peat under bell-glass in temp. 65° to 75° in sum.

Lissochilus.—Stove terrestrial orchids. *Nat.* River Congo district, Old Calabar, Natal, Cape of Good Hope. *Int.* 1818. *Ht.* 2 to 8 ft. *Species* cultivated, 4. *Flowers*, pink, rose, purple, white, yellow, fragrant; May to Oct. *Compost*, equal parts fibrous loam, leaf-mould, & silver sand. *Position*, shallow pans or well drained pots in warm moist part of stove during the growing period, & cool part when at rest. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keeping quite dry, Nov. to Mar. *Apply* weak liquid manure every ten days during growth. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 60° to 65°. *Growing* period, Mar. to Oct.; resting period, Oct. to Mar. *Propagate* by division of pseudo-bulbs, Feb. or Mar.

Lithospermum (Gromwell, Yellow-flowered Gromwell, Rock Gromwell, Gentian Gromwell, Purple Gromwell, Creeping Gromwell).—*Ord.* Boraginaceæ. Hardy dwarf-trailing evergreen-flowering shrubs & herbaceous perennials. *Nat.* Europe (Britain), N. America. *Int.* 1812. *Ht.*, perennial species, 6 to 18 in.; evergreen species, 12 in. *Species* cultivated, 3 evergreen; 2 herbaceous. *Flowers*, yellow, blue, red, purple; May to Oct. *Culture of evergreen species : Soil*, sandy or loamy. *Position*, margins of sunny borders or on ledges of sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *L. prostratum*, an excellent plant for draping stones on rockeries. *Culture of herbaceous species : Soil*, good ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* evergreen species by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy soil in cold frame in Mar. or Ap., transplanting seedlings when an inch high singly into 2-in. pots & grow in frame until following spring, then planting out; cuttings of shoots of previous year's growth, two to three inches long, inserted in well drained pots of sandy soil in cold frame in Aug., Sept. or Oct.; layering shoots in Sept. Herbaceous perennials by division of roots in autn. or spring.

Lithy-tree (*Viburnum lantana*)—see Viburnum.

Litobrochia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Malay Islands, Tropical America, East Indies. *Int.* 1823. *Ht.* 18 to 30 in. *Species* cultivated, about 3. *Fronds*, divided, feather-shaped. *Compost*, loam, leaf-mould, peat, & sand, in equal parts. *Position*, well drained pots in shady part of greenhouse. *Pot*, Mar. or Ap. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of pans filled with sandy peat under bell-glass in temp. 70° to 80° any time of year.

Little Snow-balls (*Cephalanthus occidentalis*)—see Cephalanthus.

Live-long (*Sedum telephium*)—see Sedum.

Liver Leaf (*Hepatica triloba*)—see Hepatica.

Livistona (Cabbage Palm).—*Ord.* Palmaceæ. Warm greenhouse palms. Orn. foliage. *Nat.* Java, Australia, China, India, Malayan Islands. *Int.* 1818. *Ht.* 5 to 15 ft. *Species* cultivated, 7. *Leaves*, large, fan-shaped. *Compost*, two parts loam, one part peat, little sand. *Position*, well drained pots in warm greenhouse, Sept. to June; outdoors or in cool greenhouse in sum. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Oct.; once, Oct. to Mar. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 55° to 60°. *Propagate* by seeds sown $\frac{1}{2}$-in. deep in rich light soil in temp. 80° to 90° in Feb. or Mar.

Lizard Orchis (*Orchis hircina*)—see Orchis.

Lizard's-herb (*Goniophlebium trilobum*)—see Goniophlebium.

Llavea.—*Ord.* Filices. Stove evergreen fern. *Nat.* Mexico. *Int.* 1853. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Fronds*, large, three times divided; upper portion contracted, fertile; lower portion broad, barren. *Compost*, equal parts loam, peat, & sand. *Position*, well drained pots in shady part of stove. *Pot*, Mar. or Ap. *Water* freely, Mar. to Sep.; moderately, Sept. to Mar. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. *Propagate* by spores sown on fine sandy peat, in well drained pans under bell-glass in temp. 70° to 80° at any time.

Lloydia (Mountain Spider-wort).—*Ord.* Liliaceæ. Hardy bulbous, flowering plant. *Nat.* Northern hemisphere (Britain). *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white & green; June. *Soil*, sandy loam, *Position*, sunny dryish borders or rockeries. *Plant*, Sept. or Oct. *Depth* for bulbs, 3 to 4 in. *Lift* & replant when unhealthy only. *Propagate* by offsets, removed & planted in Sept. or Oct.

Loasa (Chili Nettle).—*Ord.* Loasaceæ. Greenhouse & half-hardy annual & perennial-climbing & twining plants. *Nat.* Chili, Lima, Ecuador, Peru. *Int.* 1822. *Ht.* 1 to 4 ft. *Species* cultivated, 10 annuals, 1 perennial. *Flowers*, red, yellow, white; June to Sept. *Outdoor culture of annual species: Sow* seeds $\frac{1}{16}$ in. deep in light mould in temp. 65° in Feb. or Mar. *Transplant* seedlings singly in 3-in. pots when 1 in. high, & grow in temp. 55° till June, then plant outdoors. *Position*, against sunny walls or fences. *Soil*, ordinary. *Indoor culture of annual species: Sow* seeds as above. *Transplant* seedlings singly into 3-in. pots, & when 6 in. high into 5-in. size, or place three in an 8-in. size. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Train* shoots round wire trellis or stakes inserted in the soil. *Water* moderately at first; freely afterwards. *Apply* stimulants occasionally to plants in bloom. *Temp.*, 55° to 65°. *Culture of perennial species: Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in light part of greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* moderately, Sept. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 55° to 65°. *Propagate* perennial species by seeds sown as advised for annual species; cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring. All the species are furnished with stinging hairs, & hence should not be touched by naked hands.

Lobed-leaved Pæony (*Pæonia lobata*)—see Pæonia.

Lobed Prickly Shield Fern (*Polystichum lobatum*—see Polystichum.

Lobel's Catch-fly (*Silene Armeria*)—see Silene.

Lobelia (Cardinal Flower, Shore Lobelia, Blue Lobelia).—*Ord.* Campanulaceæ. Hardy & half-hardy annuals & herbaceous perennials. *Nat.* Mexico, Cape of Good Hope, N. America, Brazil, New South Wales, Chili, W. Indies, Central America. *Int.* (Lobelia cardinalis) 1626; (L. syphilitica) 1665; (L. Erinus) 1752. *Ht.* 3 in. to 2 ft. *Species* cultivated, about 4 hardy perennials; 1 half-hardy perennial; 2 annuals; varieties several. *Flowers*, scarlet, blue, & white: May to Oct. *Outdoor culture of hardy perennial species:* (L. cardinalis, L. fulgens, L. splendens, & L. syphilitica): *Soil*, ordinary rich. *Position*, sunny moist borders. *Plant*, Oct., Mar. or Ap. *On* cold, damp soils all the species (except L. syphilitica) best lifted in Oct., placed in pots, stored in cold frame till Mar., then replanted. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould and sand. *Pot*, Oct. or Mar. *Position*, cold frame, Oct. to Mar.; cool greenhouse, Mar. till past flowering, then outdoors. *Water* very little, Oct. to Mar.; freely afterwards. *Apply* stimulants, May to Aug. *Culture of half-hardy perennial species* (L. Erinus, Dwarf-Bedding Lobelia): *Soil*, ordinary. *Position*, pots in greenhouse heated to temp. 55°, Oct. to June; as edgings to beds, &c., outdoors, June to Oct. *Plant*, June, 3 to 6 in. apart. *Lift* plants in Sept., place in small pots, & store in greenhouse to furnish cuttings in spring. *Cut* off flower stems a fortnight before lifting. *Pot culture of L. Erinus: Compost*, equal parts good soil, leaf mould and sand. *Position*, dwarf kinds in 4 or 5-in. pots, & trailing kinds in pots or baskets, in shady or sunny greenhouse or window. *Pot*, Mar. to July. *Water* freely in sum.; moderately other times. *Apply* stimulants to plants in flower. *Culture of annual species* (L. gracilis & L. ramosa):

Sow seeds in Feb. or Mar., on surface of fine mould, & cover with slight sprinkle of fine sand, & place in temp. 65° to 75°. *Transplant* seedlings when third leaf has formed 1 in. apart in ordinary light soil in shallow boxes, & when leaves meet, transplant 2 in. apart. *Remove* plants to cold frame in May, and plant outdoors in June. *Pot culture* same as for L. Erinus. Annual species very pretty trailing plants for baskets, vases, &c. *Propagate* hardy perennial species by seeds sown $\frac{1}{16}$ in. deep in sandy loam & leaf-mould in cold frame in Sept. or Oct., or in temp. 55° in Mar.; cuttings of shoots inserted in small pots in temp. 55° in spring; division in Mar. Half-hardy species by seeds sown, as advised for L. gracilis; cuttings of young shoots inserted in sandy soil in temp. 65° to 75° in spring; division in Mar. or Ap.

Loblolly Bay-tree (*Gordonia lasianthus*)—see Gordonia.

Lobster-flower (*Poinsettia pulcherrima*)—see Poinsettia.

Lockin Gowan (*Trollius europæus*)—see Trollius.

Locks-&-Keys (*Dielytra spectabilis*)—see Dielytra.

Locust Tree (*Robina pseudacacia*)—see Robinia.

Loddon Lilies (*Leucojum æstivum*)—see Leucojum.

Lofty Bhotan Pine (*Pinus excelsa*)—see Pinus.

Loiseleurea (Alpine Azalea, Trailing Azalea). — *Ord.* Ericaceæ. Hardy trailing flowering shrub. Evergreen. *Nat.* Northern hemisphere (Scotland). *Species* cultivated, 1. *Flowers*, rose; July to Aug. *Soil*, deep sandy peat. *Position*, open moist rockeries. *Plant*, Sept. to Nov. *Propagate* by layering shoots, Sept. to Nov. *This* plant is also known as *Azalea procumbens*.

Lomaria (Deer Fern).—*Ord.* Filices. Tree & dwarf evergreen ferns. Stove, greenhouse, & hardy. *Nat.* Britain, Java, Ceylon, New Caledonia, Chatham Island, Australia, Brazil, Chili, W. Indies, Mexico, S. Africa. *Int* (foreign species) exact date unknown, probably 1810. *Ht.* 6 in. to 3 ft *Species* cultivated, 4 stove, 21 greenhouse, 2 hardy; varieties several. *Fronds* feather-shaped. *Culture of stove species: Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, pots, beds, or rockeries in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* abundantly, Ap. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. *Syringe* tree species twice daily, Feb. to Sept. *Culture of greenhouse species: Compost*, as above. *Pot*, Mar. or Ap. *Position*, pots, beds, or rockery in shady part of house. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringe* as advised for stove species. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 55°. *Culture of hardy species* (*L. alpina* & *L. spicant*): *Soil*, two parts sandy peat, one part loam & pounded limestone. *Position*, shady rockeries. *Plant*, Oct. or Ap. *Water* freely in dry weather. *Protect L. alpina* in very severe weather. *Propagate* by spores sown on fine sandy peat in well drained pans in temp. 80° any time; dwarf species by division of plants, Oct. or Ap.

Lomatia (Native Holly of Australia).—*Ord.* Proteaceæ. Greenhouse evergreen shrubs. Orn. foliage. *Nat.* Australia, Chili. *Int.* 1792. *Ht.* 2 to 10 ft. *Species* cultivated, 4. *Leaves*, feather & egg-shaped, green or glaucous, prickly. *Compost*, equal parts peat, loam, & sand. *Position*, well drained pots in sunny airy greenhouse. *Pot*, Feb. to Ap. *Prune* into shape when necessary, Feb. *Water* moderately, Sept. to Ap., freely afterwards. *Ventilate* freely, Ap. to Sept., moderately afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 60° to 70°, June to Sept.

Lombardy Poplar (*Populus fastigiata*)—see Populus.

Lonas.—*Ord.* Compositæ. Hardy annual. *Nat.* Barbary. *Int.* 1686. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, yellow, July to Oct.

Soil, ordinary. *Position*, sunny borders or beds. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in Ap. in patches or lines where plants are required to flower.

London Pride (*Saxifraga umbrosa*)—see Saxifraga.

London Tufts (*Dianthus barbatus*)—see Dianthus.

Long-bearded Hawk-weed (*Hieracium longipilum*)—see Hieracium.

Long-bracted Orchis (*Orchis longibracteata*)—see Orchis.

Long-flowered Bell-flower (*Campanula nobilis*)—see Campanula.

Long-flowered Phlox (*Phlox longiflora*)—see Phlox.

Long-flowered Tobacco-plant (*Nicotiana longiflora*)—see Nicotiana.

Long-flowering Forget-me-not (*Myosotis semperflorens*) — see Myosotis.

Long-fruited Almond Tree (*Amygdalus communis macrocarpa*)—see Amygdalus.

Long-leaved Ash (*Fraxinus americana longifolia*)—see Fraxinus.

Long-leaved Bear's-Breech (*Acanthus longifolius*)—see Acanthus.

Long-leaved Bell-flower (*Campanula longifolia*)—see Campanula.

Long-leaved Butter-wort (*Pinguicula longifolia*)—see Pinguicula.

Long-leaved Cucumber-tree (*Magnolia Fraseri*)—see Magnolia.

Long-leaved Pine (*Pinus australis*)—see Pinus.

Long-leaved Rock-rose (*Cistus longifolius*)—see Cistus.

Long-leaved Saxifrage (*Saxifraga longifolia*)—see Saxifraga.

Long-leaved Star-wort (*Aster longifolius*)—see Aster.

Long-leaved Sun-dew (*Drosera longifolia*)—see Drosera.

Long-leaved Wallflower (*Cheiranthus longifolius*)—see Cheiranthus.

Long-petalled Iris (*Iris longipetala*)—see Iris.

Long-pod Bean (*Faba vulgaris ensiformis*)—see Faba.

Long-rooted Crane's-bill (*Geranium macrorhizum*)—see Geranium.

Long-runnered House-leek (*Sempervivum flagelliforme*)—see Sempervivum.

Long-spined Honey-Locust-tree (*Gleditschia macrospina*)—see Gleditschia.

Long-spined Thorn (*Cratægus macrantha*)—see Cratægus.

Long-spined Thorn-apple (*Datura ferox*)—see Datura.

Long-spurred Algerian Orchis (*Orchis longicalcarata*)—see Orchis.

Long-spurred Butter-wort (*Pinguicula caudata*)—see Pinguicula.

Long-spurred Orchid (*Angræcum sesquipedale*)—see Angræcum.

Long-spurred Valerian (*Centranthus macrosiphon*)—see Centranthus.

Long-stalked Poppy-Mallow (*Callirrhoe pedata*)—see Callirrhoe.

Long-stalked Violet (*Viola pedunculata*)—see Viola.

Long-styled Bell-flower (*Campanula macrostyla*)—see Campanula.

Long-tailed Lady's-Slipper (*Cypripedium caudatum*)—see Cypripedium.

Long-twigged Broom (*Genista virgata*)—see Genista.

Looking-glass Orchis (*Ophrys speculum*)—see Ophrys.

Lonicera (Honeysuckle).—*Ord.* Caprifoliaceæ. Hardy & half-hardy, erect & twining, deciduous & evergreen shrubs. Flowering & orn. foliage. *Nat.* Europe (Britain), N. America, Chili, China, Japan, India. *Int.* (foreign species) 1629. *Species* cultivated, 9 deciduous twiners, 3 evergreen twiners, 1 variegated variety; 7 deciduous erect, 2 evergreen erect. *Flowers*, yellow, purple, white, red, crimson, scarlet, rose, fragrant; Feb. to Oct. *Culture of twining species: Soil*, rich ordinary. *Position*, S. or W. walls or fences for evergreen kinds; fences, walls, or arbors in any aspect for deciduous kinds. *Plant*, Oct. to Ap. *Top-dress* with well decayed manure in Mar. or Ap. *Prune L. fragrantissima* slightly after flowering; other kinds in Feb., shortening shoots of previous year's growth to within 1 or 3 in. of base. *Water* freely in dry weather. *Apply* weak liquid manure occasionally in sum. to healthy plants. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould or well decayed manure & sand. *Pot*, Oct. to Dec. *Position*, cold frame or greenhouse, Nov. to Feb.; warm greenhouse, Feb. to June; sunny place outdoors, June to Nov. *Water* freely, Feb. to Oct.; moderately afterwards. *Apply* stimulants occasionally when in flower. *Prune* previous year's shoots to within 1 or 2 in. of base in June. *Culture of L. sempervirens in greenhouse: Compost*, same as for pot culture. *Plant*, Oct. to Mar. *Position*, small well drained bed, or tub with shoots trained up rafter or trellis. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Culture of erect species: Soil*, ordinary. *Position*, open or shady shrubberies. *Plant*, Oct. to Mar. *Prune* slightly, Dec. to Feb. *Mulch* with decayed manure, Feb. or Mar. *Propagate* by cuttings of firm shoots, 8 in. long, inserted in sandy soil in sheltered position outdoors in Oct. & Nov.; or in cocoanut-fibre refuse & silver sand in pots in cold frame or greenhouse; layering shoots, Aug. to Nov.

Loose-branched Star-wort (*Aster laxus*)—see Aster.

Loose-flowered Cotoneaster (*Cotoneaster laxiflora*)—see Cotoneaster.

Loose-flowered Holly (*Ilex laxiflora*)—see Ilex.

Loose-flowered Orchis (*Orchis laxiflora*)—see Orchis.

Loose-flowered Rock-rose (*Cistus laxus*)—see Cistus.

Lopezia.—*Ord.* Onagraceæ. Hardy annual. *Nat.* Mexico. *Int.* 1804. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, rosy purple; July to Sept. *Soil*, ordinary. *Position*, sunny borders. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in Ap. in patches or lines where plants are required to flower, or in light soil in temp. 55° to 65° in Mar., transplanting outdoors in May.

Lophanthus (Giant Anise Hyssop).—*Ord.* Labiateæ. Hardy perennials. *Nat.* N. America. *Int.* 1692. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, blue, purple; July to Sept. *Leaves*, fragrant. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. to Ap. *Cut* down flower stems, Nov. *Mulch* with decayed manure in Ap. *Propagate* by division of roots in Oct. or Ap.

Lophospermum. — *Ord.* Scrophulariaceæ. Half-hardy climbing perennials. *Nat.* Mexico. *Int.* 1834. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, rosy purple; May to Oct. *Indoor culture: Compost*, equal parts loam & leaf-mould & little sand. *Pot*, Mar. to May. *Position*, well drained pots with shoots draping over front of stage, or trained up trellis, walls, or rafters, or suspended in baskets in sunny greenhouse. *Water* freely, Mar. to Sept.; moderately Sept. to Nov.; keep nearly dry afterwards. *Apply* stimulants to healthy plants in flower only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Outdoor culture: Soil*, ordinary rich. *Position*, against S. walls or in sunny vases or window boxes. *Plant*, June. *Lift*, repot, & place in greenhouse in Sept. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in ordinary light soil in temp. of 60° to 70° in Mar., transplanting seedlings when 1 in. high singly into 2 or 3-in. pots; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, Mar. to Aug.

Lopper Gowan (*Trollius europæus*)—see Trollius.

Loquat (*Photinia japonica*)—see Photinia.

Lord Anson's Pea (*Lathyrus magellanicus*)—see Lathyrus.

Lord Harrington's Yew (*Cephalotaxus pedunculata*)—see Cephalotaxus.

Lord Howe's Island Wedding-Flower (*Iris Robinsoniana*) – see Iris.

Lot-tree (*Pyrus aria*)—see Pyrus.

Lotus (Bird's-foot Trefoil).—*Ord.* Leguminosæ. Greenhouse & hardy perennials. *Nat.* Europe (Britain), Cape Verde Islands, Teneriffe, Australia. *Int.* (foreign species) 1640. *Ht.* 6 in. to 3 ft. *Species* cultivated, 1 hardy herbaceous perennial, 4 greenhouse perennial herbs. *Flowers*, yellow, orange, pink, purple, red, scarlet; May to Oct. *Culture of greenhouse species : Compost*, two parts sandy loam, one part leaf-mould, half part each pounded charcoal & sand. *Pot*, Feb. or Mar. *Position*, pots in light airy part of sunny greenhouse. *Water* moderately, Mar. to Sept.; very little afterwards. *Apply* weak stimulants to healthy plants in flower. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Culture of hardy species* (*L. corniculatus*) : *Soil*, ordinary rich. *Position*, sunny rockeries or elevated beds. *Plant*, Mar. or Ap. *This* species makes a very pretty rock plant. *Propagate* greenhouse species by seeds sown $\frac{1}{16}$ in. deep in sandy soil in well drained pot or pan in temp. 55° to 65° in Mar. or Ap.; cuttings of shoots inserted in well drained pots of sandy soil under bell-glass in temp. 55° to 65° in sum. Hardy species by seeds sown $\frac{1}{16}$ in. deep in Ap. where plants are required to grow: division of plants in Mar. or Ap.

Lotus (*Nymphæa lotus*)—see Nymphæa.

Lotus-tree (*Diospyros lotus*)—see Diospyros.

Louse-berry-tree (*Euonymus europæus*)—see Euonymus.

Love-apple (*Lycopersicum esculentum*)—see Lycopersicum.

Love Grass (*Eragrostis elegans*)—see Eragrostis.

Love-in-a-mist (*Nigella damascena*)—see Nigella.

Love-in-a-puzzle (*Nigella damascena*)—see Nigella.

Love-in-idleness (*Viola tricolor*)—see Viola.

Love-lies-bleeding (*Amarantus caudatus*)—see Amarantus.

Love Pea (*Abrus precatorius*) – see Abrus.

Love-tree (*Cercis siliquastrum*)—see Cercis.

Low Birch (*Betula pumila*)—see Betula.

Luckie's Mutch (*Aconitum Napellus*)—see Aconitum.

Luculia.—*Ord.* Rubiaceæ. Greenhouse evergreen shrub. Flowering & orn. foliage. *Nat.* Himalayas, Khasia Mountains. *Int.* 1823. *Ht.* 8 to 15 ft. *Species* cultivated, 2. *Flowers*, rose, white, very fragrant; May to Dec. *Leaves*, oval, deep green & glabrous. *Compost*, equal parts fibrous loam, peat, charcoal, & sand. *Position*, in large well drained pots, or preferably in beds 2 to 3 ft. wide & 18 in. deep. *Put* 6 in. of drainage into latter. *Pot* or plant, Feb., Mar. or Ap. *Prune* shoots moderately after flowering to within 2 or 3 in. of base. *Water* freely, Ap. to Nov.; withhold entirely afterwards. *Syringe* foliage twice daily, Ap. to Sept. *Temp.*, Ap. to Sept., 60° to 70°; Sept. to Dec., 55° to 65°; Dec. to Ap., 45° to 55°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pans of light sandy soil in temp. of 60° to 70° in Feb., Mar. or Ap.; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 70° to 80° in June or July. Seedlings flower when 3 to 5 years old.

Lunaria (Common Honesty, Money Flower, Satin Flower, Satin Leaves, White-flowered Honesty, Perennial Honesty).—*Ord.* Cruciferæ. Biennial & perennial flowering & orn. fruiting plants. *Nat.* Central & Southern Europe. *Int.* 1595. *Ht.* 18 in. to 3 ft. *Species* cultivated, 1 biennial, 1 perennial; varieties several. *Flowers*, lilac, white, purple, fragrant; May to Aug. *Seed-pods* flat, oval, containing a satiny partition; very useful for drying for winter decorations. *Culture of biennial species* (*L. biennis*) : *Soil*, ordinary. *Position*, partially shaded borders or margins of shrubberies. *Plant*, Aug. to Nov., singly or in groups of 3 or 6. *Discard* plants after flowering. *Culture of perennial species : Soil*, light rich ordinary. *Position*, partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* biennial species by seeds sown in shallow drills or patches outdoors in sunny position in Ap., transplanting seedlings when third leaf is formed 6 in. apart each way; perennial species by seeds sown similarly, or by division of roots in Mar. or Ap.

Lunary (*Botrychium Lunaria*)—see Botrychium.

Lung-flower (*Gentiana pneumonanthe*)—see Gentiana.

Lung-wort (*Pulmonaria officinalis*)—see Pulmonaria.

Lupine (*Lupinus polyphyllus*)—see Lupinus.

Lupinus (Lupine or Lupin).—*Ord.* Leguminosæ. Hardy shrubby & herbaceous perennials & annuals. Flowering and orn. foliage. *Nat.* S. & N America & S. Europe. *Int.* 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 3 shrubby perennials; about 6 herbaceous perennials; 3 annuals; varieties numerous. *Flowers*, white, blue, yellow; Ap. to Oct. *Leaves*, hand-shaped, green. *Culture of shrubby perennials: Soil*, sandy loam. *Position*, sunny rockeries or open sheltered borders. *Plant*, Oct. or Ap. *Protect*, Nov. to Ap. with layer of bracken or litter around base of plant. *Culture of herbaceous perennials*: *Soil*, ordinary rich. *Position*, open sunny or partially-shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure in Ap. *Cut* down flower stems in Oct. *Culture of annual species*: *Sow* seeds ⅛ in. deep & 1 in. apart in Ap. in patches where required to flower. *Thin* seedlings in May to 2 or 3 in. apart. *Remove* seed pods directly they form to ensure continuous display of flowers. *Apply* stimulants when in flower. *Water* freely in dry weather. *Propagate* by seeds sown ⅛ in. deep outdoors in Ap., transplanting seedlings into flowering positions, June to Aug.; division of plants in Ap.

Lusmore (*Digatalis purpurea*)—see Digitalis.

Lust-wort (*Drosera rotundifolia*)—Drosera.

Lycaste.—*Ord.* Orchidaceæ. Warm greenhouse, evergreen, & deciduous orchids. *Nat.* Tropical America, W. Indies. *Int.* 1790. *Ht.* 6 to 12 in. *Species* cultivated, 7; varieties several. *Flowers*, yellow, purple, white, red, crimson, rose, fragrant; Nov. to June. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well-drained pots, pans, or baskets, in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov., moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting-room or cool conservatory when in flower. *Propagate* by division of pseudo-bulbs immediately after flowering.

Lychnis (Campion, Lamp-flower, Flower of Constantinople, Flower of Bristow, Gardener's Delight, Gardener's Eye, Jerusalem Cross, Scarlet Lychnis, Devil's Flower, Crow-flower, Crow-soap, Marsh Gilliflower, Meadow Pink, Ragged Robin, Jupiter's Flower, Cockle Flower, Corn Pink, German Catchfly, Lime-wort, Rose-of-Heaven, Rose Campion).—*Ord.* Caryophyllaceæ. Hardy alpine & border perennials. *Nat.* S. Europe, Britain, Alps, Siberia, China, Algiers, Bolivia. *Int.* (foreign species), 1593. *Ht.* 3 in. to 4 ft. *Species* cultivated, 10; varieties several. *Flowers*, single & double, purplish rose, scarlet, flesh, rose, white, vermilion, red; Mar. to Oct. *Soil*, light rich loam for *L. alpina* & *L. Lagascæ*; ordinary for other species. *Position*, sunny well-drained rockery for *L. alpina* & *L. Lagascæ*; open dryish beds, borders, or banks for other species. *Plant*, Oct. to Dec. & Feb. to May. *Cut* down flower stems of *L. chalcedonica* & *L. vespertina* in Oct. or Nov. *Top-dress* border species with well-decayed manure in Mar. or Ap. *Apply* weak liquid manure occasionally to border species when in flower. *Lift* & replant border species every other year. *Propagate* by seeds sown ⅛ in. deep in light soil in sunny position outdoors in Mar. or Ap., transplanting seedlings into flowering position, Aug. to Nov.; division of plants, Sept. to Dec. & Feb. to Ap.

Lycium (Box-thorn, African Tea-tree, Asses' Box-tree, Prickly Box, Barbary Box-thorn, Duke of Argyll's Tea-tree, Matrimony-vine, European Box-thorn).—*Ord.* Solanaceæ. Hardy erect & climbing flowering shrubs. Deciduous. *Nat.* N. Africa, N. Asia, S. Europe, China. *Int.* 1696. *Ht.* 6 to 12 ft. *Species* cultivated, 4. *Flowers*, violet, red, purple, yellow; May to Aug.; succeeded by purplish white or orange-scarlet berries. *Branches* more or less spiny. *Soil*, ordinary. *Position*, well drained borders with shoots trained to fences, arbors, porches, pergolas, verandas, trellises, or walls in any aspect; also suitable for hedges. *Plant*, Oct. to Feb. *Prune* Oct. to Feb., removing weak shoots entirely & shortening vigorous ones a little. *Hedge culture: Trench* ground 2 spits deep & 3 ft. wide. *Plant* 12 in. apart in single rows, Oct. to Feb. *Trim* into shape, June & July. *L. europæum* an excellent climber for positions near the sea. *Propagate* by cuttings of firm shoots 6 to 8 in. long, inserted in ordinary soil in shady position in Sept. or Oct.; layering shoots, Sept. to Nov.; by removing suckers with roots attached, Oct. to Feb.

Lycopersicum (Love Apple, Tomato).—*Ord.* Solanaceæ. Tender annual. *Nat.* S. America. *Int.* 1596. *Ht.* 2 to 5 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, greenish yellow; all the year round. *Fruit*, variously-shaped, red or yellow; edible. *Pot culture: Compost*, two parts decayed turfy loam, one part well decomposed manure. *Position*, warm light greenhouse, Feb. to June; cold sunny greenhouse, June to Oct. *Sow* seeds in Jan. in temp. 75° for warm greenhouse; in Mar. in temp. 65° for cold greenhouse. *Depth* for sowing seeds, $\frac{1}{8}$ in. *Ordinary* light mould suitable for sowing seeds in. *Transfer* seedlings when three leaves have formed singly into 2-in. pots, or two inches apart in larger pots or boxes; into 6-in. pots when 6 in. high; into 8 or 10-in. pots when 12 in. high. *Drain* pots well & pot firmly. *Fill* pots two thirds full only with compost. *Train* plants with one stem only. *Rub* off all side shoots. *Water* sparingly till fruit forms. *Syringe* twice daily in fine weather, except when in flower. *Fertilize* flowers at mid-day by tapping them with a stick. *Apply* liquid or artificial manures when fruit has set. *Top-dress* when bearing freely with compost of two parts loam & one part decayed manure, adding tablespoonful of superphosphate to every bushel. *Ventilate* freely when in flower. *Dry* atmosphere essential to ensure good set. *Temp.* for warm greenhouse, Feb. to June, 55° to 65°. *Culture in boxes: Size* of boxes for single plants 10 in. square; for two plants 12 in. wide, 9 in. deep, 18 in. long; for four plants 18 in. wide, 2 ft. long, 9 in. deep; for eight plants 18 in. wide, 36 in. long, 12 in. deep. *Half-fill* with compost only, until fruit sets, then top-dress. *Cultural* details same as for pots. *Culture in beds*: *Compost*, decayed turfy soil only; no manure. *Place* compost in ridge 18 in. wide & 12 in. high in centre on staging near front of house, or in beds on floor 2 ft. wide & 18 in. deep, enclosed with dry bricks or turves. *Plant* 12 in. apart for single stems; 3 ft. apart for three or more stems. *Remove* all side shoots from single-stem, also any that issue from the sides of the three-stemmed plants. *Water* very little till fruit has set, then freely. *Apply* stimulants only when fruit has formed. *Fertilize* as for pot plants. *Ventilate* freely when temp. reaches 90°. *Top-dress* when several bunches of fruit have formed, with similar compost to that advised for pot plants. *Temp.*, Feb. to June, 55° to 65°. *Culture in frames*: *Compost*, as above. *Plant* in heated frame in Feb., Mar. or Ap.; in cold frame, June. *Allow* one plant to each light, & train to three stems, these resting on trellis or branches near glass. *Water* moderately until fruit forms, then freely. *Ventilate* freely during middle of day. *Shade* not required. Stimulants, top-dressing & training as above. *Temp.* for heated frame, 55° to 65°. *Syringing* unnecessary. *Winter culture*: *Compost*, as above. *Position*, pots preferably or beds. *Sow* seed in June. *Plant* or pot, Aug. or Sept. *Water* sparingly.

Apply stimulants only to plants bearing freely. *Train* to one or three stems. *Dry* atmosphere necessary to ensure flowers setting. *Temp.*, 55° to 65°. *Outdoor culture*: *Soil*, ordinary, not recently manured. *Position*, against S. or W. walls or fences, or in open. *Plant*, June, 12 in. apart against walls & 2 ft. apart each way in open. *Train* to one stem, removing all side shoots. *Place* stout stakes to plants in open. *Apply* stimulants when fruit has set. *Artificial manures for tomatos*: 1. Common salt 3 lb., superphosphate 1½ lb., nitrate of soda 1½ lb., kainit 1 lb., to be applied in a mixed state to square rod outdoors, or at the rate of 2 oz. to each plant in beds, or ½ oz. to each plant in a 10-in pot, when fruit has set (Sanders); 2. Kainit 1½ lb., sulphate of ammonia 2½ lb., sulphate of iron 1½ lb., superphosphate 6 lb., to be applied as advised for No. 1 formula (Griffiths). *Liquid artificial manures*: 1. 1oz., No. 1, solid formula, dissolved in 3 gall. of water & applied every three days undiluted; 2. Sulphate of ammonia 1 oz., sulphate of iron 1 oz., superphosphate 1 oz. dissolved in a gallon of water, & applied as directed for No. 1 (Griffiths); 3. Peruvian guano 1 oz. dissolved in a gallon of water; 4. Nitrate of soda ½ oz. dissolved in 2 gall. of water. No. 3 & 4 to be applied every four days to plants carrying heavy crops only. *Plants* should bear their first fruit when 11 weeks old. *Average yield of fruit*: Single-stemmed plant in 10-in. pot 10 to 15 lb., in beds 12 to 20 lb.; outdoors, 6 to 8 lb. Triple-stemmed, 8 to 15 lb. *Propagate* by seeds sown ⅛ in. deep in ordinary light soil in temp. 65° to 75° as above advised; by cuttings, inserted in ordinary soil in temp. 65° to 75° at any time.

Lycopodium (Club-moss, Cypress-moss, Heath Cypress, Savin-leaved Club-moss, Buck-grass, Buck-horn Moss, Stag's-horn Moss, Wolf's Claw, Ground Pine, Moon-fruit Pine, Shining Club-moss, Small Alpine Club-moss, Fir-moss, Tree-moss).—*Ord.* Lycopodiaceæ. Stove, greenhouse & hardy perennial mosses. *Orn.* foliage. *Nat.* Northern hemisphere (Britain), East Indies, New Zealand. *Ht.* 4 to 9 in. *Species* cultivated, 5 stove, 4 greenhouse, 5 hardy. *Habit*, creeping or erect, stems clothed with scale-like, dark green leaves. *Culture of stove species: Compost*, equal parts loam, peat, limestone, & silver sand. *Position*, well drained shallow pans, under bell glass or in beds in Wardian cases. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* once or twice daily, Ap. to Sept. *Shade* from direct rays of sun. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *L. Hookeri* & *L. taxifolium* should be grown head downwards in suspended baskets. *Culture of greenhouse species: Compost*, two parts sandy peat, one part leaf-mould, charcoal, & silver sand. *Position*, well drained pans under bell-glass, or beds in Wardian cases. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Culture of hardy species outdoors* (*L. dendroideum* & native kinds): *Soil*, deep moist sandy peat. *Position*, low bed on open sunny rockery. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Culture of hardy species in Wardian cases: Compost*, two parts peat, one part leaf-mould, one part charcoal, & liberal quantity of limestone chips or tufa. *Bed* to be well drained. *Plant*, Feb. to Ap. *Water* once or twice a week, Ap. to Sept.; once a fortnight, Sept. to Dec.; once a month, Dec. to Ap. *Syringe* or dew over daily, Ap. to Oct. *Shade* from sun. *Ventilate* a little daily. *Propagate* by division, Feb. to Ap.

Lygodium (Snake's-tongue Fern, Climbing Fern, Japanese Climbing Fern, Twining String Fern).—*Ord.* Filices. Stove & greenhouse climbing ferns. Deciduous & evergreen. *Nat.* New Zealand, Hong Kong, Japan, Australia, Florida, Malay Peninsular, Polynesian Islands, China, Ceylon, Peru. *Int.* 1793. *Ht.* 3 to 30 ft. *Species* cultivated, 10; *Fronds*, slender, twining; divisions tongue or hand-shaped. *Compost*, equal parts peat, loam, sand, & charcoal. *Position*, well drained pots or beds in shade with fronds twined round sticks, pillars, string, or trellis. *Plant* or pot, Feb. to Ap.

Water freely, Feb. to Oct.; moderately afterwards. *Temp.*: Stove species, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. Greenhouse species, Sept. to Mar., 45° to 50°; Mar., to Sept. 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; division of plants at potting time.

Lycoris (Golden Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering bulbs. Deciduous. *Nat.* China, Turkestan. *Int.* 1758. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, pink, red, fragrant; appearing before foliage; June to Sept. *Compost*, two parts sandy loam, one part equal proportions of leaf-mould & cow manure. *Pot* dry bulbs, Sept. to Dec.; afterwards repotting annually immediately after flowering. *Bury* bulbs about two-thirds of their depth. *Water* moderately from time flowers show till leaves appear, then freely; keep quite dry after leaves fade. *Temp.*, Sept. to Ap., 55° to 65°. *Place* pots from Ap. to Sept. in light sunny cool position. *Propagate* by offsets treated as bulbs, Sept. to Dec.

Lyonia.—*Ord.* Ericaceæ. Hardy-flowering shrubs. Evergreen. *Nat.* N. America, Mexico, Jamaica, Cuba. *Int.* 1748. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, white, May to Aug. *Soil*, peaty. *Position*, moist shady borders. *Plant*, Sept. to Nov. & Feb. to Ap. *Pruning* unnecessary. *Propagate* by seeds sown on surface of sandy peat under bell-glass in shade in cold frame or greenhouse in Oct. or Ap.; layering shoots, Sept. or Oct.

Lyon's Shell-flower (*Chelone Lyoni*)—see Chelone.

Lyre-tree (*Liriodendron tulipiferum*)—see Liriodendron.

Lysimachia (Loose-strife, Creeping Jenny, Herb-two-pence, Twopenny Cress, Money-wort).—*Ord.* Primulaceæ. Hardy erect or creeping herbaceous perennials. *Nat.* Europe (Britain), N. America. *Int.* (foreign species) 1730. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 9; varieties several. *Flowers*, yellow, white, purple; May to Sept. *Culture of erect species*: *Soil*, ordinary rich. *Position*, moist shady borders, margins of ponds or streams. *Plant*, Oct. to Ap. *Cut* down flower stems, Nov. *Outdoor culture of creeping species* (*L. nummularia*); *Soil*, ordinary. *Position*, moist shady rockeries or margins of beds, ponds, or streams. *Plant*, Mar. to June. *Indoor culture of L. nummularia*: *Compost*, two parts good ordinary soil or loam, one part leaf-mould, decayed manure or cocoanut-fibre refuse, & one part sand. *Position*, well-drained pots or baskets suspended in shady window or cool greenhouse. *Pot*, Mar. to May. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec., keep nearly dry, Dec. to Ap. *Apply* stimulants once or twice a week, May to Aug. *L. nummularia aurea* has pretty golden foliage & is well adapted for growing in baskets, also for culture in shady or sunny window-boxes outdoors. *Propagate* erect species by division of plants, Oct. to Dec., or Mar. Creeping Jenny by division, Mar. to May.

Lythrum (Winged Loose-strife, Græffer's Loose-strife, Common-purple Loose-strife, Willow-weed, Slender-branched Purple Loose-strife).—*Ord.* Lythraceæ. Hardy herbaceous & shrubby perennial. *Nat.* N. America, S. Europe (Britain), Tauria. *Int.* (foreign species), 1776. *Ht.* 1 to 4 ft. *Species* cultivated, 4. *Flowers*, purple, red; May to Sept. *Soil*, ordinary. *Position*, moist shady borders or margins of ponds or streams. *Plant*, Oct. to Dec. or Feb. to Ap. *Cut* down flower stems in Nov. *Water* freely in dry weather. *Top-dress* with well-decayed manure, Mar. or Ap. *Pot culture of L. Græfferi*: *Compost*, two parts sandy loam, one part leaf mould or decayed manure & sand. *Position*, well-drained pots, with shoots trailing over front of stage, in cool greenhouse, or in baskets suspended in greenhouse or window. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Apply* stimulants once or twice weekly from May to Sept. *Propagate L. Græfferi* by cuttings inserted in sandy soil in cold frame or greenhouse in Aug. or Ap.; other species by division of plants, Oct. or Ap.

Mace Reed (*Typha latifolia*)—see Typha.

Mackarel Mint (*Mentha viridis*)—see Mentha.

Mackaya.—*Ord.* Acanthaceæ. Greenhouse flowering shrub. Deciduous. *Nat.* Natal. *Int.* 1869. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, lilac, purple veins; Ap. to June. *Compost*, two parts decayed fibrous loam, one part dried cow manure, half a part sharp silver sand. *Position*, light airy greenhouse. *Pot*, Mar. *Prune* after flowering, shortening shoots to 2 or 3 in. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep quite dry, Nov. to Mar. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Propagate* by cuttings inserted singly in two-inch pots filled with sandy soil, June to Aug. *Transfer* to 5-in. pots when rooted; prune closely in Ap., and shift into 8-in. & 10-in. pots. *Plants* flower when two to three years old.

Macleania.—*Ord.* Vacciniaceæ. Greenhouse trailing flowering shrubs. Evergreen. *Nat.* Columbia, New Grenada. *Int.* 1848. *Species* cultivated, 2 (*M. pulchra* & *M. speciosissima*). *Flowers*, yellow, scarlet; Mar. to June. *Compost*, equal parts turfy loam, peat & sand. *Position*, well drained pots with shoots drooping over front of staging, or in suspended baskets. *Pot*, Mar. or Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Prune* straggling shoots into shape, Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by cuttings inserted in fine sand in temp. 55° to 65° in sum.

Maclura (Bow-wood, Osage Orange).—*Ord.* Urticaceæ. Hardy deciduous tree. *Orn.* foliage. *Nat.* N. America. *Int.* 1818. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellowish green, inconspicuous. *Fruit*, round, golden yellow, 3 to 5 in. in diameter; rarely borne in this country. *Leaves*, egg-shaped, bright green. *Soil*, ordinary. *Position*, in open sheltered shrubberies or hedges. *Plant*, Oct. to Feb. *Prune* into shape when necessary, Nov. to Feb. *Hedge culture:* Plant 12 in. apart in single row. *Soil* to be trenched two spits deep & 3 ft. wide. *Trim* into shape, July & Nov. *Propagate* by cuttings 6 to 8 in. long, inserted in ordinary soil, in shady position, Oct. to Mar.

Macrozamia (Swan River Fern Palm, Giant Fern Palm).—*Ord.* Cycadaceæ. Greenhouse evergreen perennials. *Orn.* foliage. *Nat.* Australia. *Int.* 1846. *Ht.* 5 to 20 ft. *Species* cultivated, 7. *Leaves*, feather-shaped, green; very graceful. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots, in light greenhouse, shaded from sun. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 55° to 60°. *Propagate* by seeds sown in sandy peat in temp. 75° in Mar.; division of plants in Mar.; offsets in Feb. or Mar.

Madagascar Jasmine (*Stephanotis floribunda*)—see Stephanotis.

Madagascar Periwinkle (*Vinca rosea*)—see Vinca.

Mad-apple (*Solanum melongena*)—see Solanum.

Mad-dog Weed (*Alisma plantago*)—see Alisma.

Madaria (Mignonette Vine).—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1831. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, yellow; July to Sept. *Soil*, ordinary. *Position*, semi-shaded borders. *Propagate* by seeds sown ⅛ in. deep in Ap., in groups or patches where required to flower; thinning seedlings when 2 in. high to 3 in. apart.

Madder (*Rubia tinctoria*)—see Rubia.

Madeira Bell-flower (*Wahlenbergia lobelioides*)—see Wahlenbergia.

Madeira Orchis (*Orchis foliosa*)—see Orchis.

Madeira Vine (*Boussingaultia basselloides*)—see Boussingaultia.

Madia (Madia Oil Plant).—*Ord.* Compositæ. Hardy annuals. *Nat.* Chili. *Int.* 1794. *Ht.* 18 in. *Species* cultivated, 2. *Flowers*, yellow; July to Aug. *Soil*, ordinary. *Position*, shady borders. *Propagate* by seeds sown ⅛ in. deep in Ap. in patches where required to flower, thinning out seedlings when 2 in. high 3 in. apart.

Madia-oil Plant (*Madia sativa*)—see Madia.

Mad-wort (*Alyssum saxatile*)—see Alyssum.

Madonna Lily (*Lilium candidum*)—see Lilium.

Madrona Tree (*Arbutus Menziesi*)—see Arbutus.

Magic Tree of Peru (*Cantua buxifolia*)—see Cantua.

Magnolia (Cucumber Tree, Yulan, Lily-flowered Magnolia, Long-leaved Cucumber Tree, Common Umbrella Tree, Large-flowered Magnolia, Laurel-leaved Tulip-tree).—*Ord.* Magnoliaceæ. Hardy & half hardy deciduous & evergreen trees & shrubs. Flowering & orn. foliage. *Nat.* Japan, China, N. America, & India. *Int.* 1688. *Ht.* 2 to 80 ft. *Species* cultivated, 1 half-hardy; 11 hardy; about 10 deciduous; & 3 evergreen; varieties several. *Flowers*, white, rose, crimson, purple, yellow, fragrant; Mar. to Sept. *Culture of half-hardy species* (*M. fuscata*): *Compost*, two parts sandy loam, one part peat or leaf-mould, & sand. *Position*, well drained pots or tubs, or against walls in sunny greenhouse. *Pot* or plant, Mar. *Water* freely in sum.; moderately other times. *Syringe* daily, Mar. to Sept. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Prune* straggling shoots only into shape, Mar. or Ap. *Outdoor culture*: *Soil*, rich, deep sandy loam. *Position*, sheltered parts of lawn or pleasure garden, or against S. or S.W. walls for M. conspicua, M. acuminata, etc.; against S. or W. walls for M. grandiflora & M. glauca. *Plant*, Mar. or Ap. *Prune*, evergreen species, Mar. or Ap.; deciduous species after flowering. *Protect* evergreen species in very severe weather in cold districts. *Apply* weak liquid manure to healthy specimens occasionally. *Propagate* by seeds sown ⅛ in. deep in spring or autn. in well drained pots of sandy soil in a cold frame or greenhouse; layering in sum. or autn.; grafting in heat in July or Aug.

Mahaleb Cherry (*Cerasus Mahaleb*)—see Cerasus.

Mahernia.—*Ord.* Sterculiaceæ. Greenhouse evergreen flowering herb. *Nat.* Cape of Good Hope. *Int.* 1792. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, crimson & orange, fragrant; June to Sept. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light sunny greenhouse. *Pot*, Feb. or Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Water* freely, Ap. to Sept.; moderately afterwards. *Pinch* off points of main shoots occasionally to induce bushy growth. *Propagate* by cuttings of young shoots, inserted singly in 2-in. pots filled with sandy soil, in July or Aug.

Mahogany Pine-tree (*Podocarpus Totarra*)—see Podocarpus.

Mahonia.—See Berberis.

Maianthemum (Twin-leaved Lily-of-the-Valley, One-leaf).—*Ord.* Liliaceæ. Hardy herbaceous perennial. *Nat.* Northern hemisphere (Britain). *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, white; May. *Leaves* & habit similar to the Lily-of-the-Valley. *Soil*, ordinary rich. *Position*, shady borders in the open, or under shrubs. *Plant*, Sept. & Oct. *Water* freely in dry weather. *Propagate* by division of creeping root-stocks in Sept. or Ap.

Maiden-hair Fern (*Adiantum capillus-veneris* & *A. cuneatum*)—see Adiantum.

Maiden-hair Grass (*Briza media*)—see Briza.

Maiden-hair Meadow-Rue (*Thalictrum minus*)—see Thalictrum.

Maiden-hair Spleen-wort (*Asplenium trichomanes*)—see Asplenium.

Maiden-hair Tree (*Salisburia adiantifolia*)—see Salisburia.

Maiden Oak (*Quercus sessiliflora*)—see Quercus.

Maiden Pink (*Dianthus deltoides*)—see Dianthus.

Maiden's Honesty (*Clematis vitalba*)—see Clematis.

Maid-of-the-Meadow (*Spiræa Ulmaria*)—see Spiræa.

Maid's Love (*Artemisia abrotanum*)—see Artemisia.

Maize (*Zea Mays*)—see Zea.

Majorca St. John's Wort (*Hypericum balearica*) see Hypericum.

Malabar Glory Lily (*Gloriosa superba*)—see Gloriosa.

Malabar Gooseberry (*Melastoma malabathrica*)—see Melastoma.

Malabar Laurel (*Melastoma malarbaricum*—see Melastoma.

Malabar Plum-tree (*Eugenia Jambos*)—see Eugenia.

Malacca Cane (*Calamus scipionum*)—see Calamus.

Malay Rose-apple (*Eugenia malaccensis*)—see Eugenia.

Malcomia (Virginian Stock, Virgin Stock).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Europe. *Int.* 1713. *Ht.* 4 to 8 in. *Species* cultivated, 1; varieties several. *Flowers*, white, crimson, red; sum. *Soil*, ordinary. *Position*, edging to sunny beds, masses on sunny borders, or on banks or rockeries. *Outdoor culture: Sow* seeds for sum. flowering $\frac{1}{16}$ in. deep in Mar., Ap., May or June, where plants are required to grow, & similar depth in Sept. for flowering in spring. *Pot culture: Compost*, two parts good ordinary soil, one part leaf-mould, cocoanut-fibre refuse, decayed manure & sand. *Position* in 5-in. pots, well drained, in cold sunny greenhouse or window. *Sow* seeds $\frac{1}{16}$ in. deep in above pots in Mar., Ap. or May. *Water* moderately when first sown, freely when in full growth. *Thin* seedlings to half an inch apart when one inch high. *Apply* weak stimulants when flower buds show.

Male Dog-wood (*Cornus mas*)—see Cornus.

Malope (Large-flowered Mallow-wort, Barbary Mallow-wort).—*Ord.* Malvaceæ. Hardy annuals. *Nat.* S. Europe. *Int.* 1710. *Ht.* 1 ft. *Species* cultivated, 2; variety, 1. *Flowers*, purple, white, pink; June to Sept. *Soil*, rich ordinary. *Position*, sunny beds, or in masses in borders. *Sow* seeds $\frac{1}{2}$ in. deep & 4 to 6 in. apart, where required to grow, in Ap. or May. *Water* freely in dry weather. *Apply* stimulants occasionally when plants show flower. *Propagate* also by seeds sown $\frac{1}{8}$ in. deep in pots or boxes of light soil in temp. 55° in Mar., transplanting seedlings into flowering positions in May or June.

Male Fern (*Lastrea filix-mas*)—see Lastrea.

Male Oak (*Quercus sessiliflora*)—see Quercus.

Mallow Bind-weed (*Convolvulus althæoides*—see Convolvulus.

Maloo Creeper (*Bauhinia racemosa*)—see Bauhinia.

Maltese Clover (*Hedysarum coronarium*)—see Hedysarum.

Maltese Orange-tree (*Citrus aurantium melitensis*)—see Citrus.

Malva (Musk Mallow).—*Ord.* Malvaceæ. Hardy annual & perennial flowering plants. *Nat.* (perennial species) Europe (Britain); annual species, S. Europe, China. *Int.* (foreign species), 1573. *Species* cultivated, 1 perennial (*M. moschata*); 2 annuals (*M. crispa* & *M. mauritiana*). *Flowers*, white, purple, rose; June to Sept. *Culture of perennial species: Soil*, ordinary. *Position*, sunny or partially shaded beds or borders. *Plant*, Oct. or Mar. *Mulch* with manure in autn. *Culture of annual species: Soil*, ordinary. *Position*, sunny. *Plant*, May or June. *Propagate* annual species by seeds sown $\frac{1}{8}$-in. deep in light, sandy soil in temp. 55° in Mar. or Ap.; perennial species by seeds sown similiarly, or by cuttings inserted in cold frame in July or Aug.

Malvastrum (False Mallow).—*Ord.* Malvaceæ. Hardy perennials. *Nat.* United States, S. America. *Int.* 1811. *Ht.* 6 to 24 in. *Species* cultivated, 3. *Flowers*, scarlet, red, pink; June to Oct. *Soil*, ordinary. *Position*, sunny rockeries for dwarf species; sunny well drained borders for tall species. *Plant*, Oct. or Mar. *Protect* in severe winters with a layer of cinder ashes, manure or leaf-mould. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light, sandy soil in temp. 55° in Mar. or Ap.; cuttings inserted in cold frame in July or Aug.

Mammillaria (Nipple Cactus, Elephant's Tooth Cactus).—*Ord.* Cactaceæ. Greenhouse succulent perennials. *Nat.* Mexico, Chili, Brazil, N. America, W. Indies. *Int.* 1690. *Ht.* 3 to 12 in. *Species* cultivated, about 53. *Flowers*, rose, crimson, yellow, white, purple, red; generally expanding about 11 a.m., and closing at 1 p.m.; somewhat fugitive; May to Sept. *Stems* leafless, cylindrical or globular, bearing at even distances over their surface small tubercles or teats, crowned with rosettes or stars of spines. *Compost*, equal parts sandy loam, rough old mortar & pounded bricks. *Position*, sunny, airy greenhouse or window. *Pot*, Mar. or Ap., in well drained pots just large enough to accommodate roots. *Repot* every third or fourth year only. *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Dec.; none afterwards. *Syringe* on evenings of warm days, June to Sept. *Apply* soot water to healthy plants, June to Sept. *Ventilate* freely in sum. *Temp.*, March to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans or pots of sandy soil in temp. 75° in Mar., keeping soil moderately moist; by cuttings of the tops of the plants inserted in small pots of sandy gritty compost in spring; by grafting on Cereus speciosissimus at any time.

Mammoth Tree of California (*Sequoia gigantea*)—see Sequoia.

Mandarin Orange-tree (*Citrus nobilis major*)—see Citrus.

Mandevilla (Chili Jasmine).—*Ord.* Apocynaceæ. Greenhouse flowering climber. Deciduous. *Nat.* Buenos Ayres. *Int.* 1837. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; June to Sept. *Compost*, equal parts peat & loam, half part each of sand & pounded charcoal. *Position*, well drained beds or borders; shoots trained up trellis, pillars or roof of sunny greenhouse. *Plant*, Feb. *Water* freely, Feb. to Sept.; moderately, Sept. to Dec.; none afterwards. *Syringe* twice daily, Feb. to July. *Temp.*, Feb. to Sept., 55° to 65°; Sept. to Dec., 45° to 55°; Dec. to Feb., 40° to 50°. *Prune* shoots to within two buds of their base immediately after flowering. *Propagate* by seeds sown in pans or bed of sandy peat slightly covered with fine soil in a temp. of 65° to 75°, Feb to Ap.; cuttings of firm side shoots, 2 to 3 in. long, inserted in sand under bell-glass in temp. of 70° to 85° in sum.

Mandragora (Mandrake, Devil's Apple).—*Ord.* Solanaceæ. Hardy perennial herbs. *Nat.* S. Europe. *Int.* 1548. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, violet, purple, white blue, May to Sept. *Soil*, ordinary. *Position*, shady, well drained borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in cold frame or greenhouse, Mar. to May, or outdoors in Ap.; division of roots, Oct. or Ap. *Roots* of this plant are curiously shaped & poisonous.

Mandrake (*Mandragora vernalis*)—see Mandragora.

Manettia.—*Ord.* Rubiaceæ. Greenhouse evergreen climbers. *Nat.* S. America. *Int.* 1832. *Ht.* 10 to 20 ft. *Species* cultivated, 4. *Flowers*, scarlet, red, white, orange; Mar. to Dec. *Compost*, equal parts loam, peat, pounded charcoal & silver sand. *Position*, well drained pots or beds; shoots trained to trellises, round pillars or up rafters. *Plant*, Feb. to Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Temp.*, Feb. to Oct., 55° to 65°; Oct. to Feb., 45° to 55°. *Propagate* by seeds sown in shallow pans of sandy soil, slightly covered with fine mould & placed in temp. 55° to 65°, Feb. or Mar.; cuttings of young shoots, 2 to 3 in. long, inserted in small pots of sandy soil in temp. 65° to 75° in sum.

Mangosteen-tree (*Garcinia mangostana*)—see Garcinia.

Man-in-the-Ground (*Ipomæa pandurata*)—see Ipomæa.

Manioc-plant (*Jatropha Manihot*)—see Jatropha.

Manna Ash (*Fraxinus ornus rotundifolia*)—see Fraxinus.

Manna-tree (*Fraxinus ornus rotundifolia*)—see Fraxinus.

Man-of-the-Earth (*Ipomæa pandurata*)—see Ipomæa.

Man Orchis (*Aceras anthropophora*)—see Aceras.

Mantisia (Opera or Dancing Girls.—*Ord.* Scitaminaceæ. Stove herbaceous perennials. *Nat.* E. Indies. *Int.* 1808. *Species* cultvated, 1. *Flowers*, yellow, purple; July. *Compost*, equal parts peat & loam, little charcoal & sand. *Pot*, Feb. or Mar. *Position*, well drained pots in shady part of stove.

Water freely, Feb. to Oct.; keep nearly dry afterwards. *Syringe* daily, Mar. to Sept. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Propagate* by divison of roots in Feb. or Mar.

Many-flowered Barberry (*Berberis floribunda*)—see Berberis.

Many-flowered Begonia (*Begonia multiflora*)—see Begonia.

Many-flowered Golden-rod (*Solidago multiflora*)—see Solidago.

Many-flowered Heath (*Erica multiflora*)—see Erica.

Many-headed Hedgehog Cactus (*Echinocactus polycephalus*)—see Echinocactus.

Many-flowered Rose (*Rosa polyantha*)—see Rosa.

Many-flowered Solomon's-seal (*Polygonatum multiflorum*)—see Polygonatum.

Many-flowered Star-wort (*Aster multiflorus*)—see Aster.

Many-flowered Sun-flower (*Helianthus multiflorus*)—see Helianthus.

Many-leaved Tooth-wort (*Dentaria polyphylla*)—see Dentaria.

Many-coloured Collins's - flower (*Collinsia multicolor*) — see Collinsia.

Many-spiked Speedwell (*Veronica corymbosa*)—see Veronica.

Maple (*Acer campestre*)—see Acer.

Maple-leaved Plane-tree (*Platanus acerifolia*)—see Platanus.

Maple Service-tree (*Pyrus torminalis*)—see Pyrus.

Maple Vine (*Menispermum canadense*)—see Menispermum.

Marajah Palm (*Bactris Maraja*)—see Bactris.

Maranta (Arrowroot, Zebra Plant).—*Ord.* Scitaminaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Tropical America. *Int.* 1732. *Ht.* 6 in. to 5 ft. *Species* cultivated, about 12; varieties many. *Leaves*, egg, lance or heart-shaped, roundish or oblong; greyish, purplish or rose below, upper sides green, blotched or streaked with white, yellow, brown, purple or rose. *Compost*, two parts fibrous peat, one part rich loam, one part sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Syringe* daily, Mar. to Sept. *Apply* weak stimulants occasionally during sum. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Repot* annually. *Propagate* by division of tubers or rhizomes in Feb. or Mar.

Marattia (Ash-leaf Fern, Para-fern). — *Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Cape Colony, Guinea Coast. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1; varieties several. *Fronds*, 5 to 12 ft. long, feather-shaped; leaflets twice or three times divided. *Compost*, two parts peat, equal parts loam, leaf-mould & sand. *Position*, large well drained pots or moist beds. *Pot* or plant, Feb. or Mar. *Shade* from sun essential. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringing* not required. *Temp.*, Feb. to Oct., 60° to 70°; Oct. to Feb., 50° to 60°. *Propagate* by spores sown on surface of sandy peat in shallow well drained pans placed under bell-glass in temp. 65° to 75° any time.

Marbled-leaved Ivy (*Hedera Helix latifolia maculata*)—see Hedera.

March Beetle (*Typha latifolia*)—see Typha.

March Berries (*Vaccinium oxycoccos*)—see Vaccinium.

March Violet (*Viola odorata*)—see Viola.

Mare's Tail (*Hippuris vulgaris*)—see Hippuris.

Margosa Oil-plant (*Melia Azadirachta*)—see Melia.

Marguerite (*Bellis perennis* & *Chrysanthemum frutescens*)—see Bellis & Chrysanthemum.

Margyricarpus (Pearl Berry, Pearl Fruit).—*Ord.* Rosaceæ. Hardy evergreen trailing shrub. Orn. fruiting. *Nat.* Andes of Peru. *Int.* 1829. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, green; sum. *Berries*, white;

autn. *Soil*, equal parts leaf-mould, loam & sand. *Position*, sunny rockery, with shoots trailing over stones. *Plant*, Feb. to May. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in shallow boxes of light sandy soil in cold frame in autn. or spring; cuttings of young shoots, 1 to 2 in. long, inserted in sandy peat under bell-glass in cold frame in sum.; layering branches in Sept. or Oct.

Marica (Toad-cup Lily).—*Ord.* Iridaceæ. Stove & greenhouse herbaceous perennials. *Nat.* W. Indies, Brazil. *Int.* 1789. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4 stove; 2 greenhouse. *Flowers*, yellow, blue, white, red; Ap. to Sept. *Compost*, equal parts peat, leaf-mould & sand. *Position*, well drained pots in light part of stove or greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; keep dry, Nov. to Feb. *Apply* weak stimulants occasionally when in flower. *Temp.*, stove species, 65° to 75°, Mar. to Sept.; Sept. to Mar., 55° to 65°; greenhouse species, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by division of rhizomatous roots, Feb. or Mar

Marigold (*Calendula officinalis*)—see Calendula.

Mariposa-lily (*Calochortus venustus*)—see Calochortus.

Marjoram (*Origanum vulgare*)—see Origanum.

Marjoram Oil-plant (*Origanum vulgare*)—see Origanum.

Marrubium (Horehound, White Horehound). — *Ord.* Labiatæ. Hardy perennial medicinal herb. *Nat.* Britain. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Leaves* & young shoots used as a popular remedy for coughs. *Soil*, ordinary. *Position*, sunny dry borders. *Plant*, Mar. or Ap., 18 in. apart. *Propagate* by seeds sown ⅛ in. deep in shady position outdoors, Mar. to May; cuttings inserted in shady border in Ap.; division of roots in Mar.

Marshallia.—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Texas. *Int.* 1837. *Ht.* 6 to 9 in. *Species* cultivated, 1. *Flowers*, white; June to Aug. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown ⅛ in. deep in sunny border in Ap. or May, transplanting seedlings into flowering position following Sept.

Marsh Beetle (*Typha latifolia*)—see Typha.

Marsh Cistus (*Ledum palustre*)—see Ledum.

Marsh Elder (*Viburnum opulus*)—see Viburnum.

Marsh Fern (*Lastrea Thelypteris*)—see Lastrea.

Marsh Gilliflower (*Lychnis Flos-cuculi*)—see Lychnis.

Marsh Gentian (*Gentiana Pneumonanthe*)—see Gentiana.

Marsh Helleborine (*Epipactis palustris*)—see Epipactis.

Marsh-marigold (*Caltha palustris*)—see Caltha.

Marsh Orchis (*Orchis latifolia*)—see Orchis.

Marsh Ox-eye Daisy (*Chrysanthemum lacustre*)—see Chrysanthemum.

Marsh Rosemary (*Ledum palustre* & *Andromeda polifolia*)—see Ledum & Andromeda.

Marsh St. John's Wort (*Hypericum elodes*)—see Hypericum.

Marsh Willow-herb (*Epilobium palustre*)—see Epilobium.

Marsh Trefoil (*Menyanthes trifoliata*)—see Menyanthes.

Marsh Valerian (*Valeriana dioica*)—see Valeriana.

Marsh Violet (*Viola palustris*)—see Viola.

Martagon Lily (*Lilium martagon*)—see Lilium.

Martynia (Elephant's Trunk, Unicorn Plant).—*Ord.* Pedaliaceæ. Half-hardy annual. *Nat.* Mexico, Brazil. *Int.* 1731. *Species* cultivated, 4. *Flowers*, white, purple, crimson, red, yellow, violet, fragrant; June to Oct. *Pot culture: Compost*, equal parts loam, leaf-mould, decayed manure & sand. *Sow* seeds 1 in. deep singly in 2-inch pots & place in temp. of 60° to 70°, Feb. or Mar. *Transfer* to 5-in. pots in Ap. or May; to 6 or 7-in. pots in June. *Pot* firmly. *Position*, light sunny greenhouse or window. *Water* moderately at first; freely when in full growth. *Apply* weak stimulants occasionally to healthy plants in flower. *Temp.*, Feb. to May, 60° to 70°; afterwards, 55° to 65°. *Outdoor culture: Soil*, ordinary rich. *Position*, sunny well drained sheltered beds or borders. *Sow* seeds 1 in. deep singly in 3-in. pots, or 3 in. apart in shallow boxes of light soil in temp. of 60° to 70° in Feb. or Mar., transplanting seedlings 8 to 12 in. apart early in June. *Mulch* with cocoanut-fibre refuse or decayed manure after planting. *Water* in dry weather.

Marvel-of-Peru (*Mirabilis Jalapa*)—see Mirabilis.

Mary-bud (*Calendula officinalis*)—see Calendula.

Marygold (*Calendula officinalis*)—see Calendula.

Maryland Cassia (*Cassia Marilandica*)—see Cassia.

Maryland Golden-star (*Chrysopsis Mariana*)—see Chrysopsis.

Masdevallia (Spectral-flowered Orchid).—*Ord.* Orchidaceæ. Greenhouse epiphytal orchids. Evergreen. *Nat.* Tropical America. *Int.* 1842. *Ht.* 2 to 12 in. *Species* cultivated, about 50; hybrids & varieties, several. *Flowers*, white, rose, crimson, scarlet, red, purple, yellow, white, magenta, orange, violet; nearly all the year round. *Compost*, for robust species (M. Harryana, etc.), two parts fibrous peat, one part sphagnum moss & sand; for other species (M. Chimæra, etc.), equal parts peat, moss & lumps of charcoal, & a little sand. *Pot* annually in Feb. or Mar. *Position*, well drained pots for M. Harryana; teak-wood baskets, lined with moss, for M. Chimæra. *Shade* from sun essential. *Water* freely, Ap. to Sept.; moderately afterwards, and keep atmosphere moist all the year round. *Syringe* staging, floors & pots daily in sum. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 65°. *Ventilate* freely in sum. *Propagate* by division of plants in Feb.

Mask-flower (*Alonsoa incisifolia*)—see Alonsoa.

Massangea.—*Ord.* Bromeliaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Brazil, Peru, Columbia. *Int.* 1873. *Ht.* 8 to 12 in. *Species* cultivated, 3. *Leaves*, strap-shaped, green or greyish, mottled or banded with dark green, violet, brown or black. *Compost*, equal parts fibrous loam, peat, leaf-mould & silver sand. *Pot*, Mar. *Position*, shady part of stove. *Water* freely, Feb. to Oct.; moderately afterwards. *Syringe*, Mar. to Sept. *Good* drainage essential. *Temp.*, 75° to 85°, Mar. to Sept.; Sept. to Mar., 70° to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy compost in temp. 85° in Ap.

Master Tree (*Acer campestre*)—see Acer.

Mathiola (Ten-week, Brompton, German, Night-scented, Intermediate, Cape Giant, Wallflower-leaved Stock).—*Ord.* Cruciferæ. Half-hardy annuals & biennials. *Nat.* S. Europe, Greece. *Int.* 1731. *Ht.* 1 to 2 ft. *Species* cultivated, about 6; varieties numerous. *Flowers*, various; spring, sum. & autn. *Classes*: Annuals. Ten-week & Intermediate (vars. of M. annua), Wallflower-leaved (M. græca), Night-scented (M. bicornis); Biennials. Brompton, Queen (M. incana), Cape Giant (M. fenestralis). *Subclasses*: *Ten-week.*—Bouquet, Branching, German, Miniature, Pyramidal & Perfection; *Intermediate.*—Autumn-flowering, Perpetual, Emperor & East Lothian; *Spring flowering.*—Brompton, Queen, Emperor & East Lothian; *Summer-flowering*—Ten-week, Night-scented, Wallflower-leaved & Cape Giant; *Autumn-flowering.*—Autumn-flowering. *Culture of ten-week stock outdoors*: *Soil*, deep, rich, well manured. *Position*, open sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors end of May; or in cold frame or outdoors in Ap., transplanting seedlings in June. *Plant*, dwarf kinds 9 in. & tall kinds 12 to 15 in. apart each way. *Mulch* surface of soil after planting with decayed manure. *Remove* seed pods as they form. *Pot culture*: *Sow* seeds as above advised. *Transplant* three seedlings 1 in. high into a 3-in. pot, & when 3 to 4 in. high into a 5-in. pot. *Compost*, two parts good soil, one part decayed manure & sand. *Position*, cold frame during May; afterwards outdoors. *Water* freely. *Apply* stimulants when flower buds form. *Culture of* *wallflower-leaved stock*: Same as for ten-week. *Culture of night-scented stock: Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds ⅛ in. deep in Ap. where required to flower. *Culture of intermediate stock: Sow* seeds ⅛ in. deep in light soil in well drained pots or boxes in cold frame in Aug. or Sept. *Transplant* seedlings when 1 in. high singly in a 2-in. pot or four in a 4-in. pot. *Compost*, equal parts loam, leaf-mould & old mortar. *Plunge* pots to rim in cinder ashes in sunny cold frame. *Water* sparingly. *Ventilate* freely in fine weather. *Plant* out in rich soil in Mar., or transfer single plants to a 5-in. or three plants to a 6-in. pot. *Water* moderately. *Apply* stimulants when flowers show. *Position*, when in flower, light, airy greenhouse. *For autumn-flowering*, sow seeds in Mar. or Ap., & plant out in June. *Culture of Brompton & Queen stocks: Sow* seeds ⅛ in. deep in light soil in cold frame in June or July. *Transplant* seedlings when 1 in. high 8 to 12 in. apart where required to flower following year, or place singly in 2-in. pots; keep in cold frame & plant out in Mar. *Seed-Saving*: Largest percentage of double flowers obtained from plants grown in poor soil, & of the dwarfest habit.

Matricaria (Double Dog Gowan, May Weed).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Britain. *Ht.* 1 ft. *Species* cultivated, none; double variety of common kind only. *Flowers*, white, double; autn. *Soil*, ordinary. *Position*, open sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by cuttings inserted in ordinary soil in shady position outdoors in spring; division of roots in Oct. or Mar.

Mat-reed (*Typha latifolia*)—see Typha.

Matrimony Vine (*Lycium vulgare*)—see Lycium.

Matthoti's Camellia (*Camellia Matthotiana*)—see Camellia.

Maurandya.—*Ord.* Scrophulariaceæ. Half-hardy climbing perennials. *Nat.* Mexico. *Int.* 1796. *Ht.* 3 to 5 ft. *Species* cultivated, 4. *Flowers*, purple, rose, white, violet; May to Oct. *Indoor culture: Compost*, equal parts loam & leaf-mould & little sand. *Pot*, Mar. to May. *Position*, well drained pots with shoots draping over front of stage, or trained up trellis, walls, or rafters, or suspended in baskets in sunny greenhouse. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry afterwards. *Apply* stimulants to healthy plants in flower only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Outdoor culture: Soil*, ordinary rich. *Position*, against S. walls or in sunny vases or window boxes. *Plant*, June. *Lift*, repot & place in greenhouse in Sept. *Water* freely in dry weather. *Propagate* by seeds sown 1/16 in. deep in ordinary light soil in temp. of 60° to 70° in Mar., transplanting seedlings when 1 in. high singly into 2 or 3-in. pots; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, Mar. to Aug.

Mauve-flowered Starwort (*Aster turbinellus*)—see Aster.

Maxillaria.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Peru, Ecuador, Brazil. *Int.* 1832. *Ht.* 6 to 12 in. *Species* cultivated, about 6. *Flowers*, purple, yellow, red, orange, white, crimson; Nov. to Mar. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting room or cool conservatory when in flower. *Propagate* by division of pseudo bulbs immediately after flowering.

MaxLeichtlin's Lily (*Lilium Leichtlini*)—see Lilium.

May (*Cratægus Oxyacantha*)—see Cratægus.

May-apple (*Podophyllum peltatum*)—see Podophyllum.

May Gowan (*Belles perennis*)—see Bellis.

May Lily (*Convallaria majalis*)—see Convallaria.

Mazagan Bean (*Faba vulgaris præcox*)—see Faba.

Mazus.—*Ord.* Scrophulariaceæ. Hardy herbaceous creeping perennial. *Nat.* Australia. *Int.* 1823. *Ht.* $1\frac{1}{2}$ in. *Species* cultivated, 1. *Flowers* violet; May to July. *Soil*, sandy loam. *Position*, open sunny ledges of rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, cold sunny frames or windows. *Pot*, Feb. to Ap. *Water* moderately, Feb. to May & Sept. to Nov.; freely, May to Sept.; keep nearly dry, Nov. to Feb. *Propagate* by division of creeping roots, Feb. to Ap.

Meadow-bright (*Caltha palustris*)—see Caltha.

Meadow-crocus (*Colchicum autumnale*)—see Colchicum.

Meadow Geranium (*Geranium pratense*)—see Geranium.

Meadow Gowan (*Caltha palustris*)—see Caltha.

Meadow Pink (*Dianthus deltoides*)—see Dianthus.

Meadow-Rocket (*Orchis latifolia*)—see Orchis.

Meadow-Rue (*Thalictrum flavum*)—see Thalictrum.

Meadow-Saffron (*Colchicum autumnale*)—see Colchicum.

Meadow Saxifrage (*Saxifraga granulata*)—see Saxifraga.

Meadow-Sweet (*Spiræa Ulmaria*)—see Spiræa.

Mealy Centaury (*Centaurea dealbata*)—see Centaurea.

Mealy-leaved Sun-rose (*Helianthemum farinosum*)—see Helianthemum.

Mealy-tree (*Viburnum Lantana*)—see Viburnum.

Meconopsis (Welsh Poppy, Himalayan Poppy, Blue Poppy, Prickly Poppy, Nepaul Poppy, Sikim Poppy, Satin Poppy-wort, Wallich's Blue Poppy).—*Ord.* Papaveraceæ. Hardy biennial & perennial herbs. *Nat.* W. Europe (Britain), Himalaya Mountains, Nepaul, Sikim. *Int.* (foreign species) 1855. *Ht.* 1 to 5 ft. *Species* cultivated, 5; variety 1. *Flowers*, golden yellow, purple, blue; May to Sept. *Culture of biennial species* (M. aculeata, nepalensis & simplicifolia): *Sow* seeds $\frac{1}{16}$ in. deep in light sandy soil in temp. 60° to 70° in Mar. or Ap. *Transplant* seedlings in Ap. into bed of loamy soil enriched with manure, & cover with cold frame until June. *Remove* following Mar. or Ap. to where required to flower. *Position*, well drained sunny rockery. *Water* freely in sum.; keep dry as possible in winter. *Cover* surface of soil under leaves with small lumps of sandstone. *Plants* flower when 2 to 4 years old, & afterwards die. *Culture of perennial species* (M. Cambrica & Wallichi): *Soil*, ordinary rich. *Position*, sunny sheltered borders or rockeries. *Plant*, Mar. or Ap. *Water* as above advised. *Propagate M. Wallichi* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap.; *M. Cambrica* by seeds sown $\frac{1}{16}$ in. deep in moist soil outdoors in Mar. or Ap.

Median Lemon-tree (*Citrus medica*)—see Citrus.

Medicago (Medick, Snail-Clover, Calvary Clover, Crown of Thorns, Sea-Egg).—*Ord.* Leguminosæ. Hardy annual & perennial. *Nat.* S. Europe, Britain, Asia. *Int.* (Calvary clover) 1818. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow; sum.; succeeded by curiously twisted legumes. *Culture of Calvary clover* (annual): *Sow* seeds $\frac{1}{8}$ in. deep in ordinary soil in sunny position outdoors, Ap. or May. *Thin* seedlings when 1 in. high to 6 in. apart. *Water* freely in dry weather. *Pot culture: Compost*, two parts good soil, one part leaf-mould, half a part each of old mortar & sand. *Sow* seeds thinly in 5-in. pots filled with above compost. *When* seedlings are 1 in. high, thin to 3 in each pot. *Water* moderately. *Position*, sunny window or greenhouse. *Culture of perennial species* (M. falcata): *Soil*, ordinary. *Position*, dryish sunny banks, borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary soil outdoors in Mar.; division of roots in Oct. or Mar.

Medicinal Mandrake (*Mandragora officinalis*)—see Mandragora.

Medicinal Squill (*Scilla maritima*)—see Scilla.

Medicinal Worm-wood (*Artemisia Abrotanum*)—see Artemisia.

Medick (*Medicago falcata*)--see Medicago.

Mediterranean Heath (*Erica mediterranea* or *E. carnea*)—see Erica.

Mediterranean Lily (*Pancratium maritimum*)—see Pancratium.

Mediterranean Stock (*Hesperis maritima*)—see Hesperis.

Medlar (*Mespilus germanica*)—see Mespilus.

Medlar-bush (*Amelanchier ovalis*)—see Amelanchier.

Medlar-wood (*Myrtus mespiloides*)—see Myrtus.

Medinilla.—*Ord.* Melastomaceæ. Stove evergreen-flowering shrubs. *Nat.* India, Ceylon, Java, Sumatra, Moluccas, Manilla. *Int.* 1845. *Ht.* 2 to 6 ft. *Species* cultivated, 6. *Flowers*, rose, pink, white, crimson; Mar. to July & Oct. to Feb. *Compost*, two parts fibrous peat, one part loam, half part sand, half part well decayed manure. *Position*, sunny moist part of stove, Feb. to Sept.; light & moderately dry part afterwards. *Pot*, Feb. *Temp.*, Feb. to Sept., 75° to 85°; Sept. to Nov., 70° to 80°; Nov. to Feb., 65° to 75°. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Sept. *Moist* atmosphere very essential. *Apply* stimulants when plants commence flowering. *Prune* straggly shoots into shape, Jan. or Feb. *Propagate* by cuttings of firm young side shoots, 3 to 4 in. long, inserted in sandy peat & leaf-mould, under bell-glass, in temp. 85° in spring or sum.

Medusa's-head (*Euphorbia Caput-Medusæ*)—see Euphorbia.

Medusa's-head Orchid (*Cirrhopetalum Caput-Medusæ*) – see Cirrhopetalum.

Megarrhiza (Bitter Root, Californian Big-root).—*Ord.* Curcubitaceæ Hardy tuberous-rooted twining perennial. Flowering & orn. foliage. *Nat.* California. *Int.* 1880. *Species* cultivated, 1. *Flowers*, greenish; males borne in racemes, females solitary; sum. *Fruit*, roundish; spiny. *Leaves*, silvery, hand-shaped. *Soil*, ordinary light. *Position*, sunny, well drained borders; shoots trained up walls, arbours or trellises. *Plant*, Mar. to June. *Propagate* by seeds sown in light soil in temp. 55°, Mar. or Ap.

Megasea (Heart-leaved Saxifrage, Thick-leaved Saxifrage, Strap-leaved Saxifrage, Himalayan Purple Saxifrage, Broad-leaved Saxifrage).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* Siberia, Nepaul, Himalayas. *Int.* 1765. *Ht.* 4 to 12 in. *Species* cultivated, about 5; varieties several. *Flowers*, red, rose, purple, pink; Feb. to June. *Culture of M. cordifolia & crassifolia* & varieties: *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Water* occasionally in dry weather. *Culture of M. ligulata, purpurescens, Stracheyi* & varieties: *Compost*, two parts sandy peat, one part leaf-mould. *Position*, sheltered partially shaded rockeries. *Plant*, Mar. to May. *Protect* in winter by partial covering of dry litter, hand-light or bell-glass. *Water* occasionally in dry weather. *Pot culture: Compost*, two parts peat, one part leaf-mould & one part sand. *Position*, well drained 5 or 6-in. pots in cool or cold greenhouse or window, Mar. to Oct.; cold frame in winter. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally, Mar. to Aug. *Propagate* by division of roots in Oct., Nov., Mar. or Ap.

Melancholy-gentleman (*Hesperis tristis*)—see Hesperis.

Melanthium (American Bunch-flower). —*Ord.* Liliaceæ. Hardy bulbous perennials. *Nat.* N. America. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, creamy white, brown, mauve & purple; June to Aug. *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown in ordinary soil in shady position outdoors in Mar. or Ap.; division of roots in Oct. or Mar.

Melia (Bead-tree, Margosa-tree, False Sycamore, Holy Tree, Indian Lilac, Pride of China, Pride of India, Syrian Bead-tree).—*Ord.* Meliaceæ.

Stove & half-hardy evergreen & deciduous trees. Flowering & orn. foliag *Nat.* E. Indies, Tropical Asia & Africa, Japan. *Int.* 1656. *Ht.* 20 to 45. f *Species* cultivated, 3 stove; 2 half-hardy. *Flowers*, blue, lilac, white, pink June to Sept. *Leaves*, graceful, feather-shaped, green. *Culture of stove species: Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in moist part of stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 65° to 75°. *Culture of half-hardy species: Soil*, sandy loam. *Position*, large well drained pots in cool greenhouse or conservatory, or sheltered shrubberies outdoors S. of England. *Pot* or plant, Oct. to Feb. *Water* freely (in pots), Mar. to Oct.; little afterwards. *Propagate* stove species by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass in temp. 75° to 85°, spring or sum.; half-hardy species by cuttings inserted similarly in temp. 55° to 65°, sum. or autn.

Melianthus (Great Cape Honey-flower).—*Ord.* Sapindaceæ. Half-hardy evergreen shrubs. Orn. foliage. *Nat.* Cape of Good Hope. *Int.* 1688. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, brown; May to Aug. *Leaves*, graceful, feather-shaped, green. *Pot culture: Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in sunny greenhouse. *Pot*, Feb. or Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Outdoor culture: Soil*, ordinary rich. *Position*, sunny beds or borders. *Plant*, May or June. *Lift* roots in Sept. or Oct., & store like dahlias in cool frost-proof shed or greenhouse until planting time. *May* be grown entirely outdoors in warm sheltered parts of England. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in temp. 65° to 75° in Jan., Feb. or Mar., or in similar soil in temp. 55° to 65° in Aug. or Sept.; by cuttings inserted in light sandy soil under bell-glass in temp. 55° to 65° in spring or sum.

Melissa (Common Balm, Balm-leaf, Baum).—*Ord.* Labiatæ. Hardy herbaceous perennials. Aromatic foliage. *Nat.* S. Europe (Britain). *Ht.* 2 to 3 ft. *Species* cultivated, 1; variegated variety, 1. *Flowers*, white, yellow; June to Oct. *Leaves*, egg-shaped, dark green, or variegated with yellow; fragrant. *Soil*, ordinary light. *Position*, warm sunny beds or borders. *Plant*, Oct. or Mar. in groups or 12 in. apart in rows. *Gather* stems when flowers open for drying for winter use. *Cut* stems off close to ground after flowering. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors in Mar.; division of roots in Oct. or Mar.

Melittis (Balm Melittis, Bastard Balm, Honey Balm, Baum-leaf).—*Ord.* Labiatæ. Hardy perennial. *Nat.* Europe (Britain). *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, white, pink, purple; May to July. *Soil*, ordinary rich. *Position*, partially shaded beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots directly after flowering.

Melocactus (Melon Cactus, Melon Thistle, Turk's Cap Cactus, Pope's Head).—*Ord.* Cactaceæ. Greenhouse succulent perennials. *Nat.* Mexico, W. Indies, Brazil. *Int.* 1788. *Species* cultivated, about 4. *Flowers*, rose, red; sum. *Stems* globular, ribbed, spiny, surmounted by a cylindrical cap. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. *Position*, well drained pots in sunny greenhouse or window. *Repot* every three or four years in Mar. *Water* once a month, Sept. to Ap.; once a week afterwards. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept., 65° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kinds in Ap.

Melon (*Cucumis melo*)—see Cucumis.

Melon-cactus (*Melocactus communis*)—see Melocactus.

Melon Pumpkin (*Cucurbita melopepo*)—see Cucurbita.

Melon Thistle (*Melocactus communis*)—see Melocactus.

Meniscium.—*Ord.* Filices. Stove evergreen rhizomatous ferns. *Nat.* W. Indies, Mexico, Peru, China, Ceylon, Himalayas. *Int.* 1793. *Species* cultivated, about 7. *Fronds* entire or once divided. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots or ledges of rockery in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately arterwards. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by spores sown on surface of pans of fine sandy peat in temp. 75° to 80 any time; division of plants at potting time.

Menispermum (Moon Seed, Moon Creeper, Vine Maple, Yellow Perilla).—*Ord.* Menispermaceæ. Hardy deciduous flowering climber. *Nat.* N. America. *Int.* 1691. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Soil*, ordinary rich. *Position*, moist shady borders with shoots twined up walls, arbours, pergolas or trellises. *Plant*, Oct. or Mar. *Prune* away weak or unhealthy shoots, Nov. to Feb. *Propagate* by cuttings of young shoots inserted in sandy soil in shady position outdoors, or under hand-light in spring; division of roots, Oct. to Mar.

Mentha (Apple Mint, Spear Mint, Variegated Round-leaved Mint, Garden Mint, Mackerel Mint, Penny Royal).—*Ord.* Labiatæ. Hardy perennials. Aromatic foliage. *Nat.* Europe (Britain), Asia, Africa. *Ht.* ½ in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, purple; July to Oct. *Leaves*, green, or variegated with yellow; fragrant. *Culture of Spear Mint: Soil*, rich, moist, ordinary. *Position*, sunny or partially shady border. *Plant* roots 2 in. deep in rows 9 in. apart in Feb. or Mar. *Mulch* with layer of decayed manure in Mar. *Water* freely in dry weather. *Cut* off stems close to ground in Sept. & cover bed with 2 in. of soil. *Lift* & replant every three years. *Gather* shoots for drying when flowers first open. *Forcing:* Place roots close together (with ordinary soil between) in large pot or box, & put in a temp. of 55° to 65°, Oct. to Mar. *Keep* soil moist. *Culture of Peppermint:* Same as advised for Spear Mint. *Gather* when in flower for distillation. *Culture of Penny Royal*: *Soil*, moist loamy. *Position*, partially shaded border. *Plant*, Sept., Mar. or Ap., 6 in. apart in rows 12 in. asunder. *Water* freely in dry weather. *Mulch* with decayed manure in Ap. A variety of this (*M. pulegium gibraltaricum*) largely used for carpet bedding. *Plant*, Ap. or May, & lift & store in cold frame in Sept. or Oct. *Culture of ordinary species: Soil*, light rich. *Position*, partially shady borders. *Plant*, Mar. or Ap. *M. Requieni*, an excellent creeping plant for covering surface of soil in moist places. *Propagate* Spear Mint & Peppermint by division of roots in Feb. or Mar.; also cuttings of young shoots, 3 in. long inserted in shady position outdoors in sum.; Penny Royal by offshoots or divisions in Oct. or Mar.; ordinary species by division in Oct. or Feb.

Mentzelia (Prairie Lily).—*Ord.* Loasaceæ. Hardy annual, biennial, or herbaceous perennial. *Nat.* California, Louisiana, Missouri. *Int.* 1811. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, yellow, white, fragrant; May to Sept. *Culture of annual species: Sow* seeds ⅛ in. deep in light sandy soil in temp. 65° in Feb. *Transplant* seedlings when ½ in. high singly into 2-in. pots, & keep in temp. 55° to 65° till May; place in cold frame, & plant outdoors in June. *Soil*, ordinary. *Position*, sunny well drained borders. *Culture of biennial species: Sow* seeds & treat as advised for annual species. *Transfer* to 4 or 5-in. pots in June. *Plunge* these to their rims in cinder ashes in cold sunny frame until Sept., then remove to light airy greenhouse. *Water* freely in sum.; moderately in winter. *Transfer* to cold frame in Mar. *Plant* outdoors, May. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Culture of perennial species: Soil*, sandy. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Protect* Nov. to Ap. with covering of litter or ashes. *Propagate* by seeds sown as advised for annual & biennial species; division of plants, Ap. or May.

Menyanthes (Buck-bean, Bog Bean, Bog Trefoil, Marsh Trefoil, Water Trefoil).—*Ord.* Gentianaceæ. Hardy perennial aquatic. *Nat.*

Northern hemisphere (Britain). *Species* cultivated, 1. *Flowers*, white, red, purple, fragrant; Mar. to June. *Soil*, ordinary mud or bog. *Position*, shallow streams, pools or ponds, marshes & bogs. *Plant*, Sept. to Nov. & Mar. or Ap. *Propagate* by inserting pieces of creeping stems in the mud, Mar. to Oct.

Menziesia (Irish Heath, St. Dabeoc's Heath).—*Ord.* Ericaceæ. Hardy evergreen flowering shrubs. *Nat.* N. America, Ireland, S.W. Europe, Azores. *Int.* (foreign species) 1806. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4; varieties, 2. *Flowers*, white, rose, purple, pink; May to Sept. *Soil*, sandy peat. *Position*, moist sunny rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by cuttings inserted in sandy soil in sum. under hand-light; layers of shoots in autn.; division of plants in autn.

Menzies' Gooseberry (*Ribes Menziesi*)—see Ribes.

Menzies' Spruce (*Abies Menziesi*)—see Abies.

Merendera (Pyrenean Meadow Saffron).—Hardy bulbous perennials. *Nat.* Pyrenees, Caucasus, India, Persia. *Int.* 1820. *Ht.* 3 to 5 in. *Species* cultivated, 3; varieties 1. *Flowers*, lilac, rose, yellow, purple, fragrant; May to Sept. *Soil*, light sandy loam, enriched with decayed manure or leaf-mould. *Position*, moist beds on rockeries, shrubbery borders, or lawns near shade of trees. *Plant* bulbs 3 in. deep & 3 in. apart in July or Aug. *Foliage* dies down in June & July, & does not reappear until after plant has flowered. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in bed of fine soil outdoors in Aug. or Sept., or in pans or boxes of similar soil in cold frame at same time, transplanting seedlings 3 in. apart when two years old; division of bulbs in Aug. *Seedling bulbs* do not flower until four or five years old.

Merry-tree (*Prunus avium*)—see Prunus.

Mertensia (Alpine Lungwort, Siberian Lungwort, Oyster Plant, Virginian Cowslip).—*Ord.* Boraginaceæ. Hardy perennial herbs. *Nat.* E. Europe (Britain), Trop. Asia, N. America. *Int.* (foreign species) 1799. *Ht.* 6 in. to 2 ft. *Species* cultivated, 7. *Flowers*, blue, purple; Ap. to Sept. *Soil*, sandy peat & loam. *Position*, partially shady rockeries or borders. *Plant*, Oct. & Nov., Mar. & Ap. *Lift* & replant in fresh soil every four or five years. *M. Siberica* will thrive in ordinary soil in partial shade. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in cold frame in autn.; division of roots in Oct. or Mar.

Mesembryanthemum (Fig Marigold, Ice Plant, Dog Chop, Lamb's Chop, Cat Chop, Tiger Chop, Fox Chop, Mouse Chop, Weasle Chop).—*Ord.* Ficoidaceæ. Greenhouse & hardy annuals & herbaceous & shrubby perennials. Mostly evergreen & trailing. *Nat.* Australia, Africa, New Zealand, Canary Islands, S. Europe, Arabia. *Int.* 1690. *Ht.* 2 in. to 2 ft. *Species* cultivated, about 46 erect shrubby evergreens; 22 herbaceous; 11 trailing evergreens; 4 annuals. *Flowers*, white, yellow, red, scarlet, pink; May to Dec. *Culture of shrubby & herbaceous species*: *Compost*, equal parts old mortar, pounded crocks, sandy loam, well decayed manure or leaf-mould & sand. *Position*, well drained pots in sunny greenhouse or window. *Pot*, Mar. to May. *Water* freely, Ap. to Sept.; moderately, Mar. & Sept.; keep nearly dry during the remainder of year. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. *Shrubby & herbaceous species* may be planted in sunny beds or on rockeries in June; lifted, repotted & placed in greenhouse in Sept. *Culture of annual species in pots*: *Sow* seeds $\frac{1}{16}$ in. deep in Ap. in 4 or 5-in. pots filled with above compost in temp. 55° to 65°. *Thin* seedlings to $\frac{1}{2}$-in. apart. *Treat* otherwise as advised for shrubby species. *Outdoors*: *Soil*, ordinary, with liberal addition of old mortar. *Sow* seeds $\frac{1}{16}$ in. deep in Ap., where plants are required to grow. *Thin* to 1 in. apart. *Position*, sunny well drained rockery. *Culture of variegated bedding kind* (M. cordifolium variegatum): *Propagate* by cuttings inserted in sandy soil in Mar., Ap. or Sept. in temp. 60° to 70°. *Grow* in temp. 50° to 60°, Oct. to May; in cold frame until June, then plant outdoors. *Culture of Ice plant* (**M. crystallinum**):

Soil, ordinary. *Position*, sunny bed, border or rockery. *Sow* seeds $\frac{1}{8}$ in. deep in sandy soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June. *Propagate* annual species by seeds sown $\frac{1}{16}$ in. deep in spring in similar compost to that advised for plants; shrubby & herbaceous species by seeds, also by cuttings inserted in old mortar & sand in temp. 55° to 65°, Mar. to Sept.

Mesospinidium.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchids. *Nat.* Andes of Peru. *Int.* 1867. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, bright rose, purple; Oct. to Feb. *Compost*, equal parts peat & sphagnum moss. *Position* on blocks suspended from roof, or in well drained pots or pans. *Pot* or re-block, Feb. to Ap. *Water* abundantly, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 45° to 60°. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Shade* from sun. *Moist* atmosphere essential during growing period. *Propagate* by division of pseudo-bulbs, Feb. to Ap.

Mespilus (Medlar, Smith's Medlar).—*Ord.* Rosaceæ. Hardy deciduous flowering & edible fruit-bearing trees. *Nat.* Europe (Britain), Persia, Asia. *Ht.* 10 to 25 ft. *Species* cultivated, 2; varieties several. *Flowers*, white; May to June. *Fruit*, a brownish turbinate berry; ripe Nov. & Dec. *Culture of medlar* (M. germanica): *Soil*, rich, moist loam. *Position*, open sunny. *Plant*, Oct. to Mar. *Prune*, Nov. or Dec., simply thining out crowded branches. *Gather* fruit when the stalk parts readily from the branch, on fine days. *Store* in cool dry room until partial decay sets in, then use. *Culture of flowering medlar* (M. Smithi): *Soil*, ordinary. *Position*, open shrubberies or lawns. *Plant*, Oct. to Mar. *Prune* as advised for medlar. *Propagate* by seeds sown 1 in. deep in ordinary soil outdoors in autn.; grafting in Mar.; budding in July. *Suitable stocks* for grafting & budding medlars on: White thorn for dry & sandy soils; quince for moist soils; common pear for ordinary soils.

Metake Bamboo (*Bambusa Metake*)—see Bambusa.

Metrosideros (Bottle Brush Tree). —*Ord.* Myrtaceæ. Greenhouse evergreen flowering shrubs. One species (*M. scandens*) climbing. *Nat.* New Zealand. *Int.* 1840. *Ht.* 3 to 6 ft. *Species* cultivated, 3. *Flowers*, crimson, red, white; May to Sept. *Compost*, equal parts peat, sandy loam & silver sand. *Position*, well drained pots in light airy sunny greenhouse. *Pot*, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Prune* straggly shoots slightly after flowering. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell-glass in temp. 55° to 65°, May to July.

Meum (Badmoney, Baldmoney, Bear-wort, Mew, Spignel).—*Ord.* Umbelliferæ. Hardy perennial aromatic herb. *Nat.* W. Europe (Britain). *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, sunny beds, borders, banks or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems, Sept. *Water* freely in dry weather. *Propagate* by division of the roots, Oct., Nov., Mar. or Ap.

Mexican Daisy (*Erigeron maximum*)—see Erigeron.

Mexican Ivy (*Cobæa scandens*)—see Cobæa.

Mexican Mock-orange (*Philadelphus microphyllus*)—see Philadelphus.

Mexican Orange-flower-tree (*Choisya ternata*)—see Choisya.

Mexican Pelican-flower (*Cypripedium irapeanum*)—see Cypripedium.

Mexican Poppy (*Argemone mexicana*)—see Argemone.

Mexican Silver Fir (*Picea religiosa*)—see Picea.

Mexican Soap-plant (*Agave saponaria*)—see Agave.

Mexican Thistle (*Cnicus conspicua*)—see Cnicus.

Mexican Tiger Flower (*Tigridia pavonia*)—see Tigridia.

Meyenia.—*Ord.* Acanthaceæ. Stove evergreen-flowering shrubs. *Nat.* W. Africa. *Int.* 1857. *Ht.* 4 to 6 ft. *Species* cultivated, 2; variety 1. *Flowers*, blue, white, yellow; May to Sept. *Compost*, equal parts leaf-mould or well decayed manure, peat, fibrous loam & silver sand. *Position*, well drained pots in shady part of stove during growing period; light part during the resting period. *Pot*, Feb. or Mar. *Prune* moderately, Feb. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Syringe* daily, Mar. to Sept. *Apply* stimulants occasionally, May to Sept. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat & leaf-mould in temp. 75° to 85°, Jan. to May; cuttings of firm young shoots, 2 to 3 in. long, inserted in leaf-mould, peat & sand under bell-glass in temp. 75° to 85°, Feb. to June.

Mezereon (*Daphne mezereum*)—see Daphne.

Michauxia (Michaux's Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Levant, N. Persia. *Int.* 1787. *Ht.* 3 to 8 ft. *Species* cultivated, 2. *Flowers*, white, purple; June to Sept. *Soil*, moist sandy loam. *Position*, warm sheltered sunny borders. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny position outdoors in Ap., transplanting seedlings into flowering position following July or Aug.; or by sowing seeds in Ap. where plants are required to grow.

Michaelmas Crocus (*Colchicum autumnale*)—see Colchicum.

Michaelmas Daisy (*Aster tripolium* & *A. Tradescanti*)—see Aster.

Michaux's Bell-flower (*Michauxia campanuloides*)—see Michauxia.

Mic-mac Potato (*Apios tuberosa*)—see Apios.

Microglossa (Shrubby Star-wort).—*Ord.* Compositæ. Hardy shrubby perennial. *Nat.* Himalayas. *Int.* 1883. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, blue, white; autn. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sunny position outdoors, Mar. or Ap., or in sandy soil in cold frame, Ap.; division of roots, Oct. or Mar.

Microlepia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* N. India, East Indies, Ceylon, Japan. *Int.* date unknown. *Ht.* 1 to 4 ft. *Species* cultivated, 5. *Fronds*, feather-shaped, crested. *Compost*, two parts peat, one each of loam, leaf-mould & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in shady part of greenhouse. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringing* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by spores sown on surface of pans of sandy peat in temp. 55° to 65° any time; division of rhizomes, Feb. or Mar.

Micromeria.—*Ord.* Labiateæ. Half-hardy shrubby perennials. *Nat.* S. W. Europe. *Int.* date unknown. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, purplish white; July to Oct. *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by cuttings inserted in ordinary sandy soil under hand-light in cold frame, Sept. to Nov.

Microsperma.—*Ord.* Loasaceæ. Half-hardy annual. *Nat.* Western United States. *Int.* 1849. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; June to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, 4 to 6 in. apart in June. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy soil in temp. 65°, Feb., transplanting seedlings when an inch high singly into 2-in. pots, & keep in temp. 55° to 65° till May, then place in cold frame till planting time.

Midsummer Men (*Sedum selephium*)—see Sedum.

Mignonette (*Reseda odorata*)—see Reseda.

Mignonette-vine (*Madaria elegans* & *M. corymbosa*—see Madaria.

Mikania (Bone-set, Climbing Hemp-weed, Climbing Thorough-wort, German Ivy, Parlour Ivy).—*Ord.* Compositæ. Half-hardy perennial flowering climber. *Nat.* N. America. *Int.* 1823. *Ht.* 5 to 8 ft. *Species* cultivated, 1. *Flowers*, yellow, white; May to Oct. *Outdoor culture: Soil*, good ordinary, *Position*, against S. or W. walls, sunny arbours or trellises. *Plant*, May. *Lift* in Oct., & store in pots in frost-proof greenhouse or frame. *Indoor culture: Compost*, two parts loam, one part leaf-mould or well decayed manure & little sand. *Position*, well drained pots with shoots trained round trellises, or up rafters, or in suspended baskets with shoots hanging down, in sunny greenhouse or window. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally, May to Sept. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. *Propagate* by cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring.

Milfoil (*Achillea millefolium*)—see Achillea).

Military Orchis (*Orchis militaris*)—see Orchis.

Milk-maid Holly (*Ilex aquifolium ferox albo-pictum*)—see Ilex.

Milk Purslane (*Euphorbia maculata*)—see Euphorbia.

Milk-Thistle (*Carduus Marianus* & *Silybum Marianum*)—see Silybum & Carduus.

Milk Vetch (*Astragalus onobrychus*)—see Astragalus.

Milk-weed Gentian (*Gentiana asclepiadea*)—see Gentiana.

Milk-wort (*Polygala calcarea*)—see Polygala.

Milla.—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* Mexico. *Int.* date unknown. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white; July to Oct. *Outdoor culture: Soil*, deep loam. *Position*, sunny well drained rockeries or borders. *Plant* bulbs 3 in. deep & 2 in. apart in masses, Sept. to Nov. & Feb. & Mar. *Protect*, Oct. to Mar. by covering of cinder ashes, cocoanut-fibre refuse or old manure. *Lift* & replant bulbs every four or five years. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Pot*, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 5-in. pots. *Position*, cold frame from time of potting till growth begins, then remove to light, cool greenhouse. *Cover* pots entirely with cinder ashes or cocoanut-fibre refuse until growth begins. *Water* when growth commences, moderately at first, freely afterwards. Keep dry after flowers fade, & foliage turns yellow. *Repot* annually. *Propagate* by seeds sown ⅛ in. deep in well drained pots, pans, or baskets of sandy soil in cold frame or greenhouse, Feb. to Ap.; offsets removed & treated as old bulbs at potting or planting time.

Millet (*Panicum miliaceum*)—see Panicum.

Millet Rice (*Panicum colonum*)—see Panicum.

Miltonia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil, Peru. *Int.* 1830. *Ht.* 6 to 9 in. *Species* cultivated, about 18; varieties several. *Flowers*, yellow, purple, rose, white, crimson, lilac, violet; May to Dec. *Compost*, equal parts fibrous peat & chopped sphagnum moss, with a few lumps of charcoal. *Position*, well drained pots or pans in shady part of stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Shade* from sun, & moist atmosphere essential. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar. 60° to 65°. *Growing period*, Feb. to Sept.; *resting period*, Sept. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Miltwaste (*Ceterach officinarum*)—see Ceterach.

Mimosa (Sensitive Plant, Humble Plant).—*Ord.* Leguminosæ. Stove perennials. Orn. foliage. *Nat.* Tropical America, Africa, Asia. *Int.* 1638. *Ht.* 1 to 6 ft. *Species* cultivated, 3. *Flowers*, purple, red; May to Sept. *Leaves*, feather-shaped, green, sensitive. *Compost*, equal parts peat, loam & sand. *Position*, for sensitive plants (*M. pudica* & *M. sensitiva*), well drained pots in light part of stove; for M. marginata similar, but with shoots trained up roof. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Oct.; 65° to 75°. *Propagate* by seeds sown 1/16 in. deep in light soil in temp. 65° to 75°, Feb. or Mar.; cuttings of young shoots inserted in sandy soil in temp. 65° to 75°, at any time. *M. pudica* & *M. sensitiva*, though strictly perennials, are generally treated as annuals.

Mimulus (Cardinal Flower, Monkey Flower, Musk, Harrison's Musk).

—*Ord.* Scrophularinaceæ. Greenhouse & hardy annual & perennial herbs. *Nat.* California, Mexico, N. America, Chili, Australia. *Int.* 1826. *Ht.* 3 in. to 3 ft. *Species* cultivated, 1 annual; about 7 perennials; varieties many. *Flowers*, yellow, rose, scarlet, white, lilac, etc., fragrant; Mar. to Nov. *Pot culture of common & Harrison's musk: Compost*, two parts loam, one part each of leaf-mould & decayed cow manure & sand. *Pot*, Feb. to Ap. *Position*, shady window or greenhouse. *Water* freely, Mar. to Oct.; moderately, Oct. to Dec.; keep nearly dry afterwards. *Apply* stimulants two or three times weekly, May to Sept. *Suitable stimulants:* Soot water, liquid guano, nitrate of soda, cow & horse manure. *Tem.* Mar. to Oct., 50° to 65°; Oct. to Mar., 40° to 50°. *Outdoor culture*: *Soil*, ordinary rich. *Position*, moist shady border. *Plant*, Ap. or May. *Culture of annual or spotted mimulus*: *Sow* seeds on surface of light soil; slightly cover with fine mould & place in temp. 55° to 65°. Feb. Mar. or Ap. *Transplant* seedlings when three leaves have formed 1 in. apart in shallow boxes of light mould. *Place* in temp. 55° until May, then transfer to cold frame. *Plant*, outdoors, 4 in. apart, in June. *Position*, shady bed or border. *Soil*, light, moist, well enriched with decayed manure. *Mulch* with cocoanut-fibre refuse or decayed manure. *Apply* stimulants occasionally, July to Sept. *Culture of perennial species*: (M. cardinalis, etc.): *Soil*, ordinary rich. *Position*, moist, shady border. *Plant*, Mar. to June. *Apply* stimulants occasionally, June to Oct. *Mulch* with decayed manure in Oct. *May* be grown in pots similar to common musk. *Propagate* by seeds sown, Feb. to May, on surface of light soil, & covered with a little sand or fine mould, in temp. 55° to 60°; cuttings of young shoots inserted in light sandy soil in temp. 55° to 65° at any time; division of roots, Feb. to May.

Mina.—*Ord.* Convolvulaceæ. Half-hardy annual climbers. *Nat.* Mexico. *Int.* date uncertain. *Ht.* 8 to 12 ft. *Species* cultivated, 2. *Flowers*, red, crimson; June to Nov. *Soil*, light, rich. *Position*, sunny walls, arbours, window boxes or windows, with shoots trained to trellises or sticks. *Plant*, June. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 65° to 75° in Feb. or Mar., transplanting seedlings to cold frame in May.

Miniature Sun-flower (*Heliopsis lævis*)—see Heliopsis.

Miniature Sun-flower Ox-eye (*Heliopsis lævis*)—see Heliopsis.

Minorca Box Tree (*Buxus balearica*)—see Buxus.

Minorca Clematis (*Clematis balearica*)—see Clematis.

Minorca Holly (*Ilex balearica*)—see Ilex.

Minskull Crab (*Mespilus germanica*)—see Mespilus.

Mint (*Mentha veridis*)—see Mentha.

Mirabilis (Marvel of Peru, Jalap of Peru, Garden Jalap, Sweet-scented Marvel of Peru, Many-flowered Marvel of Peru).—*Ord.* Nyctaginacæ. Half-hardy & hardy perennial herbs. Tuberous rooted. *Nat.* Mexico, Central America, California. *Int.* 1596. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, crimson, purple, fragrant; May to Oct. *Culture of half-hardy species* (Marvel of Peru): *Soil*, good, ordinary. *Position*, sunny beds or borders. *Plant* tuberous roots in Ap.; seedlings in June. *Apply* stimulants occasionally when plants are flowering. *Lift* tubers in Oct., and store in sand, cocoanut-fibre refuse or cinder ashes in frost proof place until Ap. *Culture of hardy species* (M. longiflora & M. multiflora: *Soil*, ordinary rich. *Position*, well drained sunny borders at base of S. walls. *Plant* Mar. or Ap. *Protect*, Nov. to Mar. with covering of dry litter or manure. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. 65° to 75°, Feb. or Mar., transferring seedlings to cold frame in May & planting out in June; division of tubers at planting time. *Marvel of Peru* may be treated as an annual.

Missouri Currant (*Ribes aureum*)—see Ribes.

Missouri Evening-Primrose (*Œnothera missouriensis macrocarpa*)—see Œnothera.

Missouri Hyacinth (*Brodiæa coccinea*)—see Brodiæa.

Mistletoe (*Viscum album*)—see Viscum.

Mitchella (Chequer-berry, Deer-berry, Partridge-berry, One-berry, Squaw-vine, Winter Clover).—*Ord.* Rubiaceæ. Hardy evergreen trailing herb. *Nat.* N. America. *Int.* 1761. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, white; June to Aug.; succeeded by small scarlet berries. *Soil*, equal parts peat & leaf-mould. *Position*, shady borders or rockeries. *Plant*, Oct. Nov., Mar. or Ap. *Propagate* by division of roots in Oct. or Mar.

Mitella (Mitre-wort, Bishop's Cap). — *Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* N. America. *Int.* 1731. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Flowers*, white, yellow; Ap. and May. *Soil*, sandy peat. *Position*, partially shaded rockeries. *Plant*, Mar. or Ap. *Propagate* by division of the roots, Mar. or Ap.

Mitraria (Mitre Flower, Scarlet Mitre-pod). — *Ord.* Gesneraceæ. Hardy flowering trailer. Evergreen. *Nat.* Chiloe. *Int.* 1848. *Species* cultivated, 1. *Flowers*, scarlet; May to Aug. *Soil*, two parts fibrous peat, one part sand. *Position*, moist sheltered borders or rockeries. *Plant*, Sept. or Ap. *Pot culture: Compost*, two parts sandy peat, one part leaf-mould & sand. *Pot*, Sept. or Oct. *Position*, well drained pots in shady cold greenhouse or fernery. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by cuttings of shoots inserted in light soil under bell-glass in cold shady frame or greenhouse, Ap. to Sept.; division of roots in Ap.

Mitre-Flower (*Cyclamen persicum*)—see Cyclamen.

Mitre-pod (*Mitraria coccinea*)—see Mitraria.

Mitre-wort (*Mitella diphylla*)—see Mitella.

Mitriostigma (Citron-scented Gardenia).—*Ord.* Rubiaceæ. Stove evergreen flowering shrub. *Nat.* Natal. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, single, citron-scented; Jan. to May. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom), Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.

Mocassin Flower (*Cypripedium spectabile*)—see Cypripedium.

Mock-Orange (*Philadelphus coronarius*)—see Philadelphus.

Mock Orange-tree (*Philadelphus coronarius*)—see Philadelphus.

Mock-Plane (*Acer pseudo-platanus*)—see Acer.

Mock Privet (*Phillyrea angustifolia*)—see Phillyrea.

Modiola.—*Ord.* Malvaceæ. Hardy trailing perennial herb. *Nat.* N. America. *Int.* date unknown. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, red; June to Sept. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct. or Mar. *Protect* in severe winters with a layer of cinder ashes, manure or leaf-mould. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light, sandy soil in temp. 55° in Mar. or Ap.; cuttings inserted in cold frame in July or Aug.

Mœhringia.—*Ord.* Caryophyllaceæ. Hardy herbaceous perennial. *Nat.* S. Europe. *Int.* 1775. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, exposed or shaded rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in boxes in cold frame, Mar.; cuttings under bell-glass in open, Ap.; division of plants in Oct. or Mar.

Mohoe (*Hibiscus arboreus*)—see Hibiscus.

Mohria (Frankincense).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Cape of Good Hope. *Int.* 1842. *Ht.* 9 to 12 in. *Species* cultivated, 1; variety 1. *Fronds*, feather-shaped, green, fragrant. *Compost*, two parts peat, one part small lumps of sandstone, one part silver sand. *Position*, well drained pots in shady part of greenhouse, or in beds in Wardian cases in dwelling room. *Pot* or plant, Feb. or Mar. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Propagate* by spores sown on surface of fine sandy peat in pans & placed in temp. 75° to 80° any time.

Moldavian Balm (*Dracocephalum moldavicum*)—see Dracocephalum.

Molina (Indian Grass, Lavender Grass, Purple Moor Grass).—*Ord.* Graminaceæ. Hardy perennial grass. *Nat.* Europe (Britain). *Ht.* 8 to 12 in. *Species* cultivated, none; variety of *M. cœrulea* only. *Leaves*, smooth, rigid, green, variegated with white. *Soil*, ordinary. *Position*, open or shady, as edgings to beds or borders. *Plant*, Oct. or Mar. to June. *Propagate* by division of roots, autn. or spring.

Molopospermum.—*Ord.* Umbelliferæ. Hardy herbaceous perennial. Flowering & orn. foliage. *Nat.* S. Europe. *Int.* 1596. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, white; May to June. *Leaves*, large, handsome, fern-like green. *Soil*, ordinary. *Position*, partially shaded borders *Plant*, Oct., Nov., Mar.or Ap. *Propagate* by seeds sown ⅛ in. deep in ordinary soil in shady position outdoors in Mar., Ap. or Sept. division of roots, Oct. or Mar.

Moly (*Allium Moly*)—see Allium.

Momordica (Balsam Apple, Apple of Jerusalem, Squirting Cucumber). —*Ord.* Cucurbitaceæ. Half-hardy annual climbers. Orn. foliage. *Nat.* Australia, Africa, Asia. *Int.* 1568. *Ht.* 4 to 6 ft. *Species* cultivated, 3. *Flowers*, yellow. *Fruit*, round, oblong or cylindrical, reddish orange; Sept. *Indoor culture: Compost*, two parts decayed turfy soil, one part horse droppings or decomposed manure. *Position*, pots or beds with shoots trained up roof of sunny greenhouse. *Pot* or plant, Ap. or May. *Size* of pots, 8 or 10 in. *Water* freely. *Syringe* twice daily. *Moist* atmosphere essential. *Apply* stimulants occasionally when fruit forms. *Nip* off point of shoot at first joint beyond fruit. *Shade* from hot sun. *Temp.*, 65° to 75°. *Outdoor culture: Soil*, ordinary, rich. *Position*, against sunny walls, trellises, arbours or trailing over banks. *Plant*, June. *Water* freely in dry weather. *Apply* stimulants occasionally when fruit forms. *Pruning* of shoots not required. *Propagate* by seeds sown singly in 2-in. pots filled with light soil in temp. 65° to 75° in Feb. or Mar.

Monarda (Horse Balm, Horse Mint, Bradbury's Horse Mint, Bee Balm, Mountain Mint, Oswego Mint, Wild Bergamot, Dotted Horse Mint).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1656. *Ht.* 1 to 3 ft. *Species* cultivated, about 6; varieties several. *Flowers*, white, scarlet, pink, purple, lilac; June to Oct. *Leaves*, mint, balm or sage-scented. *Soil*, ordinary. *Position*, singly, or in masses in open or partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* with decayed manure in autn. or spring. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in partially shaded position outdoors, Mar. or Ap., or in boxes of light soil in cold frame or greenhouse in Mar.; division of roots in Oct. or Nov.

Monardella.—*Ord.* Labiatæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1877. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, orange scarlet, fragrant; Aug. to Nov *Leaves*, fragrant. *Soil*, ordinary. *Position*, open or partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* with decayed manure in autn. or spring. *Propagate* by seed sown $\frac{1}{16}$ in. deep in light soil in partially shaded position outdoors, Mar. or Ap., or in boxes of light soil in cold frame or greenhouse in Mar.; division of roots, Oct. or Mar.

Money-flower (*Lunaria biennis*)—see Lunaria.

Money-in-both-Pockets (*Lunaria biennis*)—see Lunaria.

Money-wort (*Lysimachia nummularia*)—see Lysimachia.

Money-wort Loose-strife (*Lysimachia nummularia*)—see Lysimachia.

Monkey-cup (*Nepenthes distillatoria*)—see Nepenthes.

Monkey-flower (*Mimulus moschatus*)—see Mimulus.

Monkey-Orchis (*Orchis tephrosanthos*)—see Orchis.

Monkey-puzzle (*Araucaria imbricata*)—see Araucaria.

Monk's-cowl (*Aconitum Napellus*)—see Aconitum.

Monk's-hood (*Aconitum Napellus*)—see Aconitum.

Monochætum.—*Ord.* Melastomaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Mexico, Peru, New Grenada, Guatemala. *Int.* date unknown. *Ht.* 1 to 2 ft. *Species* cultivated about 6. *Flowers*, red, rose, mauve, purple; Sept. to Mar. *Compost*, two parts fibrous peat, one part light loam, one part leaf-mould & little sand. *Position*, well drained pots in light greenhouse, Sept. to June; cold sunny frames, June to Sept. *Pot*, Mar. *Prune* shoots moderately close immediately after flowering. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringing* twice daily, Mar. to June. *Apply* stimulants occasionally, June to Oct. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Propagate* by cuttings of shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75°, Mar. or Ap. *Nip* off points of shoots of young plants occasionally, Ap. to Aug., to induce bushy growth.

Monox Heather (*Empetrum nigrum* & *Vaccinium oxycoccos*)—see Empretrum & Vacinium.

Monstera.—*Ord.* Aroideæ. Stove evergreen climbers. Orn. foliage & fruiting. *Nat.* Mexico. *Int.* date unknown. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Leaves*, large, handsome, perforated, dark green. *Stems*, creeping, furnished with ærial roots. *Fruit*, cylindrical, fragrant, edible; ripe in autn. *Compost*, equal parts peat, leaf-mould & loam, little sand. *Position*, well drained border against damp wall of stove or warm fernery. *Plant*, Feb. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily afterwards. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° ro 65°. *Propagate* by cuttings of the stems inserted in light soil in temp. 70° to 80°, any time.

Montbretia.—*Ord.* Iridaceæ. Hardy deciduous bulbous plants. *Nat.* S. Africa. *Int.* 1780. *Ht.* 2 to 3 ft. *Species* cultivated, 2; varieties several. *Flowers*, orange-scarlet, yellow, orange-red; Feb. to Sept. *Outdoor culture: Soil*, equal parts sandy loam, leaf-mould & decayed manure. *Position*, sunny well drained borders. *Plant*, 3 in. deep & 2 in. apart in masses, Oct. to Mar. *Protect*, Nov. to Mar., by covering of dry litter. *Mulch* in Mar. with layer of decayed manure, first removing litter. *Water* occasionally in very dry weather. *Apply* stimulants occasionally during flowering period. *Lift* & replant bulbs annually. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry to Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Monterey Cypress (*Cupressus macrocarpa*)—see Cupressus.

Monterey Pine-tree (*Pinus insignis*)—see Pinus.

Montezuma Cypress (*Taxodium distichum mexicanum*)—see Taxodium.

Monthly Rose (*Rosa indica*)—see Rosa.

Montpelier Milk-Vetch (*Astragalus monspessulanus*)—see Astragalus.

Moon-creeper (*Menispermum canadense* & *Ipomœa Bona-nox*)—see Menispermum & Ipomæa.

Moon Daisy (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Moon Fern (*Botrychium lunaria*)—see Botrychium.

Moon-penny (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Moon-seed (*Menispermum canadense*)—see Menispermum.

Moon-wort (*Botrychium lunaria*)—see Botrychium.

Moonog Heather (*Empetrum nigrum* & *Vaccinium oxycoccos*)—see Empetrum & Vaccinium.

Moor-berries (*Vaccinium oxycoccos*)—see Vaccinium.

Moor-Heath (*Erica vagans*)—see Erica.

Moor-myrtle (*Myrica Gale*)—see Myrica.

Moor-wort (*Andromeda polifolia*)—see Andromeda.

Moorva Plant (*Sanseviera Roxburghi*)—see Sanseviera.

Moræa (Butterfly Iris, Spanish Nut Iris).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* Cape of Good Hope, Mediterranean Region. *Int.* 1597. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 12. *Flowers*, yellow, purple, blue, violet, white, red; Ap. to Aug. *Outdoor culture: Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow manure. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Moreton Bay Fig-tree (*Ficus macrophylla*)—see Ficus.

Moreton Bay Lily (*Eurycles Cunninghami*)—see Eurycles.

Moreton Bay Pine-tree (*Araucaria Cunninghami*)—see Araucaria.

Moreton Bay Trumpet Jasmine (*Tecoma jasminoides*)—see Tecoma.

Morina (Whorl-flower).—*Ord.* Dipsaceæ. Hardy perennial herbs. *Nat.* Nepaul, Himalayas. *Int.* 1839. *Ht.* 6 in. to 2 ft. *Species* cultivated, 2. *Flowers*, yellow, white, pink, crimson; May to Aug. *Soil*, deep moist sandy loam. *Position*, partially shaded sheltered borders. *Plant*, Sept. to Nov., Mar. or Ap. *Protect*, Nov. to Mar., by covering of litter. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat & leaf-mould in cold frame in Sept. or Oct., Mar. or Ap.; division of roots, Sept.

Mormodes.—*Ord.* Orchidaceæ. Stove deciduous epiphytal orchids. *Nat.* Central America, Mexico, Columbia. *Int.* 1837. *Ht.* 2 to 3 ft. *Species* cultivated, 3; varieties 3. *Flowers*, yellow, brown, pink, red, white, crimson, fragrant; July to Oct. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off; very little other times. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of plant at potting time.

Morning Glory (*Ipomæa purpurea*)—see Ipomæa.

Morus (Common Mulberry, American Red Mulberry, Italian Mulberry).—*Ord.* Urticaceæ. Hardy deciduous trees. Orn. foliage & fruit bearing. *Nat.* Eastern Asia, N. America. *Int.* 1548. *Ht.* 20 to 70 ft. *Species* cultivated, 3. *Flowers*, greenish white; May to July. *Fruit*, oblong white, red or black berries; ripe, Sept. & Oct. *Culture of mulberry* (M. nigra): *Soil*, light, deep moist loam. *Position*, sunny, sheltered from North winds, in England; against South walls in Scotland. *Plant*, Nov. to Mar. *Depth* of roots below surface 6 in. *Prune* in Feb., simply thinning overcrowded branches & shortening straggling ones. *Shorten* young shoots growing out of front of branches of trees grown against walls to 6 in. in July. *Top dress* surface of soil equal to spread of branches with well decayed manure in Oct. or Nov. *Suitable artificial manure:* two parts nitrate of soda, one part superphosphate, one part kainit. *Apply* in Feb. or Mar. at the rate of 4 oz. per square yard. *Gather* fruit when ready to drop. *Spread* layer of straw or lawn mowings for fruit to fall upon. *Culture of other species: Soil*, ordinary. *Position*, sunny sheltered shrubberies or singly on lawns. *Plant*, Oct. to Mar. *Prune* as advised for mulberry. *Propagate* by seeds sown ⅛ in. deep in light sandy soil, in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June or July, or in similar soil & depth outdoors in May; cuttings 6 to 8 in. long, partly of current & partly of two-year-old shoots removed from upper part of tree & inserted half their depth in light soil in sheltered position outdoors, Sept., Oct. or Mar.; layering shoots in Sept.; grafting in Mar.

Moss-berries (*Vaccinium oxycoccos*)—see Vaccinium.

Moss Fern (*Polypodium dryopteris*)—see Polypodium.

Moss-Pink (*Phlox subulata*)—see Phlox.

Moss Rose (*Rosa centifolia muscosa*)—see Rosa.

Mossy-cup Oak (*Quercus cerris*)—see Quercus.

Mossy Phlox (*Phlox subulata*)—see Phlox.

Mossy Saxifrage (*Saxifraga hypnoides*)—see Saxifraga.

Moth-mullein (*Verbascum Blattaria*)—see Verbascum.

Moth-plant (*Phalænopsis Schilleriana*)—see Phalænopsis.

Mother-of-Thousands (*Linaria cymbalaria* & *Saxifraga sarmentosa*)—see Linaria & Saxifraga.

Mount Athos Crocus (*Crocus pulchellus*)—see Crocus.

Mt. Atlas Cedar (*Cedrus atlantica*)—see Cedrus.

Mount Caper (*Orchis latifolia*)—see Orchis.

Mount Enos Fir (*Picea cephalonica*)—see Picea.

Mount Gargano Bell-flower (*Campanula garganica*)—see Campanula.

Mt. Olympus St. John's-wort (*Hypericum olympicum*)—see Hypericum.

Mountain Alder (*Alnus viridis*)—see Alnus.

Mountain Ash (*Pyrus aucuparia*)—see Pyrus.

Mountain Avens (*Dryas octopetala*)—see Dryas.

Mountain Bladder Fern (*Cystopteris montana*)—see Cystopteris.

Mountain Buckler Fern (*Lastrea oreopteris*)—see Lastrea.

Mountain Butter-cup (*Ranunculus montana*)—see Ranunculus.

Mountain Butter-wort (*Pinguicula alpina*)—see Pinguicula.

Mountain Cat's-foot (*Antennaria dioica rosea*)—see Antennaria.

Mountain Centaury (*Centaurea montana*)—see Centaurea.

Mountain Clematis (*Clematis montana*)—see Clematis.

Mountain Cotoneaster (*Cotoneaster frigida*)—see Cotoneaster.

Mountain Cowslip (*Primula Auricula*)—see Primula.

Mountain Daffodil (*Narcissus montanus* & *N. poculiformis*)—see Narcissus.

Mountain Ebony-tree (*Bauhinia variegata*)—see Bauhinia.

Mountain Elm (*Ulmus montana*)—see Ulmus.

Mountain Evening-Primrose (*Œnothera montana*)—see Œnothera

Mountain-Fern (*Lastrea oreopteris*)—see Lastrea.

Mountain-Fringe (*Adlumia cirrhosa*) see Adlumia.

Mountain Flea-bane (*Erigeron alpinus*)—see Erigeron.

Mountain Forget-me-not (*Myosotis rupicola*)—see Myosotis.

Mountain Geranium (*Geranium pyrenaicum*)—see Geranium.

Mountain Hawk-weed (*Hieracium alpinum*)—see Hieracium.

Mountain Houseleek (*Sempervivum montanum*)—see Sempervivum

Mountain Ixia-lily (*Ixiolirion montanum*)—see Ixiolirion.

Mountain Kidney Vetch (*Anthyllis montana*)—see Anthyllis.

Mountain Mad-wort (*Alyssum montanum*)—see Alyssum.

Mountain Marigold (*Senecio Lyalli*)—see Senecio.

Mountain Milk-Vetch (*Astragalus alpinus*)—see Astragalus.

Mountain Mint (*Monarda didyma*)—see Monarda.

Mountain Paisley Fern (*Allosorus crispus*)—see Allosorus.

Mountain Pasque-flower (*Anemone montana*)—see Anemone.

Mountain Pine-tree (*Pinus pumilio*)—see Pinus.

Mountain Pink (*Dianthus cæsius*)—see Dianthus.

Mountain Poly (*Bartsia alpina*)—see Bartsia.

Mountain Rocket (*Saxifraga granulata fl. pl.*)—see Saxifraga.

Mountain Rue (*Ruta montana*)—see Ruta.

Mountain Sandwort (*Arenaria montana*)—see Arenaria.

Mountain Saintfoin (*Onobrychis montana*)—see Onobrychis.

Mountain St. Peter's-wort (*Symphoricarpus montana*)—see Symphoricarpus.

Mountain Snow (*Arabis albida*)—see Arabis.

Mountain Spider-wort *Lloydia serotina*)—see Lloydia.

Mountain Spikenhard (*Valeriana tuberosa*)—see Valeriana.

Mountain Spinach (*Atriplex hortensis*)—see Atriplex.

Mountain-sweet (*Ceanothus americanus*)—see Ceanothus.

Mountain Tea-plant (*Gaultheria procumbens*)—see Gaultheria.

Mountain Vine (*Viola lutea*)—see Viola.

Mountain Violet (*Viola lutea*)—see Viola.

Mournful-Widow (*Scabiosa atro-purpurea*)—see Scabiosa.

Mouse-Chop (*Mesembryanthemum marinum*)—see Mesembryanthemum.

Mouse-ear Chickweed (*Cerastium tomentosum*)—see Cerastium.

Mouse-ear Hawk-weed (*Hieracium pilosella*)—see Hieracium.

Mouse-ear Scorpion-grass (*Myosotis palustris*)—see Myosotis.

Moutan (*Pæonia Moutan*)—see Pæonia.

Moving-plant (*Desmodium gyrans*)—see Desmodium.

Mozambique Lily (*Gloriosa virescens*)—see Gloriosa.

Mud Plantain (*Heteranthera reinformis*)—see Heteranthera.

Mugget (*Asperula odorata & Convallaria majalis*)—see Asperula & Convallaria.

Mugwet (*Asperula odorata & Convallaria majalis*)—see Asperula & Convallaria.

Mühlenbeckia (Native Ivy of Australia).—*Ord.* Polygonaceæ. Greenhouse & hardy trailing & climbing shrubs. Evergreen. *Nat.* Australia, New Zealand, Solomon Island. *Int.* 1822. *Species* cultivated, 2 greenhouse, 1 hardy. *Flowers*, pink, white, green; June to Sept. *Culture of greenhouse species: Compost*, two parts sandy loam, one part peat & sand. *Position*, well drained pots or beds, with shoots trained to trellises or rafters. *Pot* or plant, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Prune*, Feb., removing weak shoots only. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 45° to 55°. *Culture of hardy species: Soil*, sandy loam. *Position*, sunny rockery. *Plant*, Oct., Nov., Mar. or Ap. *Protect*, Nov. to Ap. by covering of dry litter or fern. *Propagate* greenhouse species by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 60° to 70° in June or July; hardy species by cuttings inserted in sandy soil in shady position outdoors, June to Sept.

Mulberry-tree (*Morus nigra*)—see Morus.

Mule Fern (*Hemionitis palmata*)—see Hemionitis.

Mule Pink.—Hybrid varieties of *Dianthus*. For culture, see paragraph on "Pinks" under head of *Dianthus*.

Mule Polypody (*Lastrea filix-mas*)—see Lastrea..

Mullein (*Verbascum Thapsus*)—see Verbascum.

Mummy Pea (*Pisum sp.*)—see Pisum.

Mummy Wheat (*Triticum compositum*)—see Triticum.

Mungeet (*Rubia cordifolia*)—see Rubia.

Musa (Banana, Abyssinian Banana, Chinese Banana, Adam's Fig).—*Ord.* Scitaminaceæ. Stove herbaceous perennials. Orn. foliage & edible fruiting. *Nat.* Abyssinia, China, India, W. Indies. *Int.* 1690. *Ht.* 4 to 20 ft. *Species* cultivated, about 6. *Inflorescence*, yellow, scarlet, green; Jan. to Ap.; succeeded by oblong pods borne in huge clusters. *Leaves*, very large, oblong, green. *Compost*, two parts good loam, one part well decayed manure & one part sand. *Position*, pots, tubs or beds in lofty sunny stove. *Pot* or plant, Jan. to Ap. *Water* copiously, Feb. to Oct.; about once fortnightly afterwards. *Syringe* twice daily, Feb. to Sept.; once daily, Sept. to Feb. *Moist* atmosphere essential. *Apply* stimulants twice or three times weekly, Mar. to Oct. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Outdoor culture of M. ensete & M. superba. Position*, sunny sheltered borders or nooks. *Place* in position first or second week in June, plunging pot or tub to its rim in the ground. *Water* copiously. *Apply* stimulants once a week. *Lift* & replace in stove in Sept. May also be planted in ordinary rich soil in June, freely watered, lifted in Sept. & roots stored close together in temp. 45° to 55° until following June. *Propagate* by suckers removed from parent plant & placed in pots in temp. 75° to 85° any time of year.

Muscadine Grape (*Vitis vulpina*)—see Vitis.

Muscari (Grape Hyacinth, American Grape Hyacinth, Pearls of Spain, Purse Tassels, Tassel Hyacinth, Feathered Grape Hyacinth, Musk Grape Hyacinth, Starch Hyacinth, Sky-blue Grape Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* S. of Europe (Britain), Armenia, Caucasus, Persia. *Int.* (foreign species) 1596. *Ht.* 4 to 18 in. *Species* cultivated, 19; varieties several. *Flowers*, blue, violet, white, yellow, purple, fragrant; Mar. to June. *Outdoor culture: Soil*, deep sandy loam. *Position*, sunny beds, borders or rockeries. *Plant*, Aug. to Nov. in lines or masses. *Depth for planting:* Small bulbs 2 in. deep & 1 in. apart; large bulbs 4 in. deep & 3 to 4 in. apart. *Mulch* with decayed manure, Nov. *Lift*, divide & replant every third year. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould or well decayed cow manure & one part river sand. *Pot*, Aug. to Nov., placing 18 to 20 small bulbs, 1 in. apart, in a 5-in. pot; or 3 to 5 large sized bulbs 1 in. deep in similar pots. *Position*, under layer of cinder ashes from time of potting till growth commences, then in cold frame, cool greenhouse or window till past flowering, afterwards in sunny spot outdoors. *Water* moderately from time growth commences till foliage fades, then keep dry. *Repot* annually. *Apply* weak stimulants once or twice during flowering period. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in boxes or cold frame, or outdoors in Sept.; offsets from old bulbs removed when lifting & planted as advised for full-sized bulbs. Seedlings flower when 3 to 4 years old.

Muscovite Rose (*Scabiosa atro-purpurea*)—see Scabiosa.

Mushroom (*Agaricus campestris*).—*Ord.* Fungi. Hardy esculent vegetable. *Nat.* Europe (Britain), N. Africa, America & Asia. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Suitable manures:* (1) Two thirds fresh horse droppings, one third short stained straw; remove long unstained straw. Place this in a heap outdoors & turn over six days afterwards. Turn again on four alternate days, then use. (2) Peat-moss litter, after use as bedding for horses. Prepare as advised for horse manure. *Suitable soil:* (1) Well decayed turfy top spit loam. (2) Old chrysanthemum mould. (3) Ordinary garden soil enriched with 1½ lb. of bone meal or 1 oz. of superphosphate of lime to every bushel. (4) Light sandy soil with ¼ lb. of common salt added to every bushel. *Position for beds:* in the open or against walls facing south, sheltered from N. & E. winds (outdoors); sheds, cellars, stables, cupboards, greenhouses. *Period for forming beds*: outdoors, July, Aug., Oct., Dec. or Jan.; sheds, etc. July to Feb. *Temp.* for indoor culture, Sept. to May, 55° to 65°. *Dimensions of beds*: outdoors, 2½ ft. wide at base, 2½ ft. high, 6 in. wide at apex; indoors, 3 to 4 ft. wide, 9 in. deep, no limit as to length. *Tread* or beat manure quite firm in beds. *Spawning*: Insert portions of spawn nearly level with surface, smooth side outwards & 9 in. apart. *Temp.* for insertion of spawn, 80° 1 in. below surface. *Quantities of spawn*: Divide each brick into eight portions. *Size of bricks*: 9 in. long, 6 in. wide, 2 in. deep. *Bushel of spawn* consists of 16 bricks. *Period for covering beds with soil*: Three days after insertion of spawn. *Depth of soil*: 1 in. if heavy; 1½ in. if medium; 2 in. if light or sandy. *Make* soil firm. *Water* previously if dry. *Cover* beds afterwards with 6 in. of straw or litter in sum. or autn.; 12 to 18 in. of similar material in winter. *Complete* darkness essential. *Apply* tepid water moderately when surface is dry only. *Suitable stimulants*: 2 oz. of common salt to 1 gallon; ¼ oz. nitrate of soda to 1 gallon; ¼ oz. of nitrate of potash to 1 gallon; 1 oz. of sulphate of ammonia to 4 gallons of water, each to be applied in a tepid state occasionally after the beds commence bearing. *Bearing* commences six weeks after spawning. *Duration of bearing*, two to three months. *Culture in cold frames:* Insert spawn 1 in. deep & 9 in. apart in cucumber or melon bed in July. Keep frame closed after cucumbers and and melons have ceased growth. Water occasionally. Apply one of above stimulants when mushrooms appear. *Culture on sides of hotbed*: Insert spawn 2 in. deep & 9 in. apart in manure. Cover with 1 or 2 in. of soil 10 days afterwards, & protect with layer of straw or litter. *Culture in pots or boxes*: Prepare manure as advised for beds. Fill 10 in. pots or boxes (9 in. deep, 2 to 3 ft. wide & long) to within 1 in. of top with manure. Beat this quite firm. Spawn & cover with soil & litter as advised for beds. Place pots, etc., in cool cellar, cupboard or greenhouse; protect from light. Keep soil moderately moist & covered with straw always. Temp. in winter 55° to 65°. *Culture in Grass:* Cut pieces of turf 6 to 12 in. square, 1 in. thick, and 3 ft. apart. Stir soil below and press into it three or four lumps of spawn, about the middle of June. Replace turf and water occasionally if dry. Best results obtained where herbage is short, soil loamy and dry, and position sunny. *Gather* mushrooms with whole of stem attached; do not leave stump in bed. *Average cost* of forming outdoor bed (2½ ft. high, 2½ ft. wide at base, 6 in. wide at apex) 5s. per lineal yard. *Average value* of produce per lineal yard 15s. *Average yield* of bed 25 yards long, 350 to 450 lbs. *Propagate* by mycelium obtained from fertile or bearing beds, & inserted in specially prepared bricks composed of cow manure & soil, afterwards dried, & stored in a cool dry place until required for use.

Musk (*Mimulus moschatus*)—see Mimulus.

Musk Grape-Hyacinth (*Muscari moschatum*)—see Muscari.

Musk Mallow (*Malva moschata*)—see Malva.

Musk Melon (*Cucurbita moschata*)—see Cucurbita.

Musk Milfoil (*Achillea moschata*)—see Achillea.

Musk-scented Daffodil (*Narcissus moschatus*)—see Narcissus.

Musk-scented Rose (*Rosa moschata*)—see Rosa.

Mussænda.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical Asia & Africa. *Int.* 1805. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, yellow, orange; bracts, white, Sept. to Mar. *Compost*, equal parts peat, loam, leaf-mould & silver sand. *Position*, well drained pots in light moist stove. *Pot*, Feb. to Ap. *Prune* moderately after flowering. *Temp.*, Feb. to Oct., 65° to 85°; Oct. to Feb., 55° to 65°. *Water* freely, Ap. to Sept.; moderately, Sept. to Nov. & Feb. to Ap.; keep somewhat dry, Nov. to Feb. *Syringe* daily, Feb. to Oct. *Propagate* by cuttings of young shoots inserted in sandy soil under bell-glass in temp 70° to 80°, May to July.

Mustard (*Sinapis alba*)—see Sinapis.

Mutisia.—*Ord.* Compositæ. Stove, greenhouse or hardy climbing; flowering shrubs. Evergreen. *Nat.* Brazil, Chili, New Granada. *Int.* 1823. *Ht.* 6 to 20 ft. *Species* cultivated, 1 stove; 2 greenhouse; 1 hardy. *Flowers*, red, orange, white, rose, pink, yellow; May to Oct. *Culture of stove species: Compost*, two parts heavy loam, one part leaf-mould, half part sand. *Position*, well drained pots or beds; shoots trained up roof or round trellis. *Pot*, Feb. or Mar. *Prune* into shape, Jan. or Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept. *Apply* stimulants occasionally during flowering period. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Culture of greenhouse species: Compost* as above. *Position*, pots or beds; shoots trained up rafters or round trellises. *Pot* or plant, Feb. or Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Apply* stimulants occasionally, May to Sept. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Culture of hardy species* (*M. decurrens*): *Soil*, ordinary rich. *Position*, well drained border against sheltered, partially shaded wall. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Protect* from slugs by placing layer of fine coke or cinders round base of stems. *Propagate* stove and greenhouse species by cuttings of half ripened shoots inserted in sand under bell-glass in temp. 55° to 65°, May or June; hardy species by cuttings of similar shoots inserted in sand in shady cold frame or greenhouse in Ap. or May.

Myosotidium (Chatham Islands Forget-me-not).—*Ord.* Boraginaceæ. Hardy herbaceous perennial. *Nat.* Chatham Islands. *Int.* 1858. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, white, blue; Ap. to June. *Soil*, ordinary. *Position*, cool & damp sheltered border. *Plant*, Oct. or Mar. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in Ap. where plants are required to grow. *This* plant should be disturbed as little as possible.

Myosotis (Forget-me-not, Scorpion Grass).—*Ord.* Boraginaceæ.—Hardy perennials. *Nat.* Europe (Britain). *Ht.* 2 in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, blue, yellow; Mar. to Aug. *Culture of M. alpestris: Soil*, moist gritty loam. *Position*, partially shady rockery, surrounded by small pieces of sandstone. *Plant*, Mar. or Ap. *Culture of M. azorica, M. dissitiflora, M. palustris & M. sylvatica: Soil*, ordinary. *Position*, as edgings to, or in masses in partially shady beds or borders. *Plant*, Oct., Nov. or Mar., 4 to 6 in. apart. These are best treated as biennials—namely, raised from seed sown outdoors in Ap., May or June, transplanted into the beds or borders in Oct. to flower following year. *Propagate* by seeds sown $\frac{1}{16}$ in. deep outdoors in spring or sum.; cuttings inserted in sandy soil under hand-light in June or July; division of roots in Mar. or Oct.

Myrica (Bay-berry, Candle-berry Myrtle, Tallow-shrub, Wax Myrtle).—*Ord.* Myricaceæ. Hardy deciduous & evergreen shrubs. *Nat.* Europe (Britain), Asia, America. *Int.* (foreign species) 1699. *Ht.* 2 to 20 ft. *Species* cultivated, 2 evergreen; 1 deciduous. *Flowers*, green, red, brown; Feb. to June. *Leaves*, lance-shaped, green, highly fragrant. *Soil*, moist sandy peat. *Position*, open sheltered borders. *Plant*, Oct. to Mar. *Prune* deciduous species, Nov. to Feb.; evergreen species, Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary soil in sheltered position outdoors in autn.; cuttings inserted in sandy soil in sheltered position outdoors, Sept. or Oct.; layering shoots in Sept. or Oct.; division of plants, Oct. to Mar.

Myricaria (German Tamarisk).—*Ord.* Tamaricaceæ. Hardy deciduous flowering shrub. *Nat.* Central Europe & Asia. *Int.* 1582. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, rose; June to Sept. *Soil*, ordinary, sandy. *Position*, open sunny borders or banks. *Plant*, Oct. to Mar. *Prune* into shape, Nov. to Feb. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in open sunny position outdoors in Mar. or Ap.; cuttings of firm young shoots inserted in sandy soil outdoors, Aug. to Nov.

Myrobella Plum (*Prunus myrobalana*)—see Prunus.

Myrrhis (Anise, British Myrrh, Great Chervil, Sweet Chervil, Sweet Cicely, Sweet Fern).—*Ord.* Umbelliferæ. Hardy perennial aromatic herb. Orn. foliage. *Nat.* Europe (Britain). *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, white; May. *Leaves* finely divided, fern-like, fragrant. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary soil outdoors, Sept. or Ap.; division of roots, Oct. or Mar.

Myrsiphyllum (Boston Smilax, Smilax Vine, Wreath Lily).—*Ord.* Liliaceæ. Greenhouse evergreen herbaceous twiner. *Nat.* Cape of Good Hope. *Int.* 1702. *Ht.* 6 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish-white; June. *Leaves*, small, green, glossy. *Shoots*, slender, graceful. *Compost*, two parts sandy loam, one part leaf-mould, half part sand. *Position*, well drained pots or beds; shoots trained up trellises, strings or rafters. *Pot* or plant, Feb. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Oct. *Apply* stimulants occasionally, May to Sept. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in temp. 55° to 65°, Mar. to Ap.; cuttings of shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, spring or sum.; division of roots at potting time.

Myrtle (*Myrtus communis*)—see Myrtus.

Myrtle-Flag (*Acorus calamus*)—see Acorus.

Myrtle Grass (*Acorus calamus*)—see Acorus.

Myrtle-leaved Box Tree (*Buxus sempervirens myrtifolia*)—see Buxus.

Myrtle-leaved Holly (*Ilex aquifolium myrtifolia*)—see Ilex.

Myrtle-Sedge (*Acorus calamus*)—see Acorus.

Myrtle-Spurge (*Euphorbia Lathyris*)—see Euphorbia.

Myrtus (Myrtle, Broad-leaved Dutch Myrtle, Portugal Myrtle, Nutmeg Myrtle, Rosemary-leaved Myrtle, Thyme-leaved Myrtle, Small-leaved Myrtle, Roman Myrtle, Box-leaved Myrtle, Variegated-leaved Myrtle, Woolly Myrtle).—*Ord.* Myrtaceæ. Greenhouse & half-hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* S. Europe, Chili, China. *Int.* 1597. *Ht.* 3 to 15 ft. *Species* cultivated, 3; varieties several. *Flowers*, white, fragrant; May to July. *Fruit*, oblong or round, purplish black berries; fragrant, edible. *Leaves*, egg or lance-shaped, green, fragrant. *Culture in greenhouses: Compost*, two parts sandy loam, one part leaf-mould, half a part sand. *Position*, well drained pots or tubs, or in beds with shoots trained to walls, in light sunny airy greenhouses. *Place* pot plants in sunny position outdoors, June to Sept. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Oct. *Apply* stimulants once a week, May to Sept., to healthy plants only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *May be grown* in dwelling rooms or windows under similar treatment. *Outdoor culture of M. communis* (Common Myrtle): *Soil*, ordinary sandy. *Position*, well drained borders against sheltered S. walls in S. or S. W. of England only. *Plant*, Oct. or Mar. *Protect*, Oct. to Mar. in severe winters with mats or straw. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in temp. 60° to 70° in autn. or spring; cuttings of young shoots, 2 in. long, inserted in sandy soil under bell-glass in temp. 65° to 75°, spring and sum.; cuttings of firm shoots, 2 to 3 in. long, inserted in sandy soil in cool greenhouse or window, June or July; branches, 5 to 6 in. long, inserted in bottles of water suspended in sunny window or greenhouse, sum.

Nægelia.—*Ord.* Gesneriaceæ. Stove tuberous-rooted herbaceous perennials. Flowering & orn. foliage. *Nat.* Mexico, Central America. *Int.* 1840. *Ht.* 1 to 2 ft. *Species* cultivated, 5; varieties several. *Flowers*, scarlet, white, orange; July to Ap. *Leaves*, heart-shaped, green or crimson, velvety. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained pots or pans in shady part of plant stove. *Pot*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* tubers 1 in. deep singly in 5-in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering*, gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 75°. *Store* when foliage has decayed on their sides under stage till potting time in temp. of 50° to 55°. *Propagate* by seeds sown on surface of well drained pots of sandy peat, in temp. 75°, Mar. or Ap.; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; division of rhizomes at potting time.

Naked-flowered Azalea (*Azalea nudiflora*)—see Azalea.

Naked-flowered Crocus (*Crocus nudiflorus*)—see Crocus.

Naked Ladies (*Colchicum autumnale*)—see Colchicum.

Naked-stalked Globe-Daisy (*Globularia nudicaulis*)—see Globularia.

Naked-Stemmed Iris (*Iris nudicaulis*)—see Iris.

Naked-stemmed Sun-rose (*Helianthemum nudicaule*)—see Helianthemum.

Nancy Pretty (*Saxifraga umbrosa*)—see Saxifraga.

Nankeen Lily (*Lilium testaceum*)—see Lilium.

Nanodes.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchid. *Nat.* Ecuador. *Int.* date unknown. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, green, brown, purple; Mar. to Nov. *Compost*, equal parts fibry peat & sphagnum moss. *Position*, in suspended baskets or on blocks of wood next the roof. *Place* in basket or on block, Feb. to Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Ap. to Nov., 55° to 65°; Nov. to Ap., 45° to 55°. *Growing period*, all the year round, no resting required. *Propagate* by division of plants in Feb. or Mar.

Narcissus (Daffodil, Daffadowndilly, Butter & Eggs, Eggs & Bacon, Common Jonquil, Sweet Nancy, Campernelle, Poet's Narcissus, Chinese Sacred Lily, Chalice Flower, Lent Lily, Lent Rose, Yellow Crow Bells, Whitsun Lily, Bell Rose, Affadil, Ajax, Two-coloured Daffodil, Peerless Primrose, Hoop Petticoat, Seashore Daffodil, Bazelman Minor Daffodil, Yellow Rush-leaved Daffodil, Horsefield's Daffodil, Incomparable Daffodil, Rush-leaved Daffodil, Golden Daffodil, Pigmy Daffodil, Tenby Daffodil, Dwarf Daffodil, Musk-scented Daffodil, Queen Anne's Daffodil, Polyanthus Daffodil, Cyclamen Daffodil, French Daffodil, Telamon's Daffodil, Mountain Daffodil, One-Flowered Daffodil).—*Ord.* Amaryllidaceæ. Hardy bulbous perennials. *Nat.* Britain, France, Spain, Italy, Portugal, Sweden, N. Africa, N. India, China, Japan, Switzerland, Greece, Barbary, Sicily, Algiers, Palestine, Canary Islands. *Int.* (foreign species) 1570. *Ht.* 3 to 18 in. *Species* cultivated, 20; hybrids, about 14; varieties, numerous. CLASSIFICATION: *Division I.* Magnicoronati (coffee-cup shaped blooms) - Ex. N. pseudo-narcissus (flat-leaf); N. bulbocodium (rush-leaf). *Sub-divisions:* 1. Corbularia (Hoop-petticoat Daffodils); 2. Ajax (trumpet). *Division II.* Medicoronati (tea-cup shaped blooms)—Ex. N. incomparabilis (flat leaf); N. triandrus (rush leaf). *Sub-divisions:* 3. Ganymedes (Cyclamen-flowered); 4, Queltia (Peerless & Non-such Daffodils). *Divison III.* Parvicoronati (tea-saucer shaped)—Ex. N. tazetta (flat leaf); N. jonquilla (rush leaf). *Sub-divisions:* 5. Hermione (Jonquil); 6, Eunarcissus (Poet's narcissus); 7. Aurelia (Broussonet's narcissus). *Flowers*, single or double; yellow, white, orange, red, fragrant; Sept. to June. OUTDOOR CULTURE: *Soil*, ordinary for common kinds; sandy loam for N. bulbocodium & vars.; peaty soil for N. cyclamineus. No manure must be applied. *Position*, partially or quite shady beds or borders facing N. or N.E. for robust kinds; rockeries sheltered from N. or N.E. winds for choice or dwarf kinds. *Plant*, June to Oct. *Depth for planting*, 3 to 4 in. on heavy soils; 6 to 8 in. on light soils. *Distance* apart, 2 to 6 in. *Lift* N. bulbocodium in July & replant in Oct.; other kinds every three or four years in July. Do not remove foliage until quite dead. CULTURE IN TURF: Make holes 2 to 3 in. wide, 6 in. deep. *Place* one bulb in each & cover with soil & turf. *Plant*, July to Oct. *Grass* must not be cut until leaves turn yellow. *Top-dress* annually with decayed cow manure in July or Aug. INDOOR CULTURE: *Compost*, two parts fibrous loam, one part well decayed manure or leaf-mould, one part sand. *Pot*, Aug. to Nov., placing 3 large, 6 medium sized, or 12 small bulbs in a 5-in. pot. *Depth* for planting: Allow apex to just appear above surface of soil. *Position*, under cinder ashes outdoors or in frame until growth begins, then remove to greenhouse or window. *Water* only when growth commences; moderately afterwards. *Apply* weak stimulants when flowers appear. *Temp.* for forcing, 55° to 65°. *After flowering*, plant bulbs, except those of N. bulbocodium & N. cyclamineus, outdoors. *Keep* soil of the latter dry after flowering. CULTURE OF CHINESE SACRED LILY: *Half fill* a Japanese bowl with shingle or gravel, & add sufficient water to just cover this. *Place* bulb on the shingle & surround with pebbles. *Put* bowl in dark cupboard until growth begins, then remove to light. *Change* water once a week; use tepid water only. *Bulbs* usually flower 5 to 6 weeks after being placed in bowls; useless after flowering. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans of sandy loam in cold frame in autn., transplanting seedlings following year 1 in. apart in bed of sandy soil in shady position outdoors; by offsets, removed from old bulbs in July or Aug., & replanted at once as advised for parent bulbs. Seedling bulbs flower when three to six years old.

Narcissus-flowered Wind-flower (*Anemone narcissiflora*) — see Anemone.

Narcissus of Japan (*Nerine sarniensis*)—see Nerine.

Narcissus-Oil-plant (*Narcissus odorus*)—see Narcissus.

Narrow-fronded Chain-fern (*Woodwardia angustifolia*)—see Woodwardia.

Narrow-fronded Bladder-fern (*Cystopteris angustata*)—see Cystopteris.

Narrow-leaved Adam's-needle (*Yucca angustifolia*)—see Yucca.

Narrow-leaved Ash (*Fraxinus excelsior angustifolia*)—see Fraxinus.

Narrow-leaved Barberry (*Berberis stenophylla*)—see Berberis.

Narrow-leaved Christmas Rose (*Helleborus angustifolius*)—see Helleborus.

Narrow-leaved Daffodil (*Narcissus angustifolius*)—see Narcissus.

Narrow-leaved Evening Primrose (*Œnothera linearis*) — see Œnothera.

Narrow-leaved Feverfew (*Pyrethrum achillæfolium*) — see Pyrethrum.

Narrow-leaved Holly (*Ilex angustifolia*)—see Ilex.

Narrow-leaved Jasmine (*Jasminum angustifolium*)—see Jasminum.

Narrow-leaved Lung-wort (*Pulmonaria angustifolia*)—see Pulmonaria.

Narrow-leaved Queensland Lily (*Crinum angustifolium*) — see Crinum.

Narrow-leaved Sea-Lavender (*Statice angustifolia*)—see Statice.

Narrow-leaved Spindle-tree (*Euonymus angustifolius*)—see Euonymus.

Narrow-leaved Sun-rose (*Helianthemum angustifolium*)—see Helianthemum.

Narrow-leaved Whortle-berry (*Vaccinium angustifolium*) — see Vaccinium.

Narrow Prickly-toothed-fern (*Lastrea spinulosa*)—see Lastrea.

Nasturtium (Water Cress).—*Ord.* Cruciferæ. Hardy perennial herb. Aquatic. *Nat.* Europe (Britain), Asia. *Species* cultivated, 1; varieties 2. *Flowers*, white; June. *Leaves*, green or brown; largely used for salads. Culture in Beds in Water: *Soil*, ordinary. *Position*, open. *Dimensions of beds*, 3 to 4 ft. wide; 3 to 6 in. deep; no limit as to length. *Depth* of soil 1½ to 3 in. *Depth* of water 1½ in. when first planted; 3 in. when growing freely; 6 in. in winter. *Water* must flow through beds, not be stagnant. *Plant*, May and June for gathering in Aug. to Feb.; Sept. to Nov. for gathering Feb. to May. *Replant* beds twice annually. *Distance for planting*, 6 in. apart in rows, 2 ft. between rows. *Soil* must be removed each planting. *Gather* the tops once a week; cut, not break, them off. Culture in Pans: *Soil*, ordinary. *Position*, tubs or tanks of water in open air or under glass. *Sow* seeds 1/16 in. deep in Mar. or Sept., & partly immerse pan in water; wholly when seedlings appear. *Insert* cuttings 2 to 3 in. apart in spring or autn., partly immerse at first, wholly after. Culture in Trenches: *Soil*, ordinary. *Position*, sunny. *Dig* trench 2 ft. wide, 1 ft. deep. *Put* 6 in. decayed manure in & 3 in. of soil on this. *Sow* seeds thinly ⅛ in. deep in Ap. & Aug. *Keep* well watered. *Cress* sown in Ap. gather June to Sept.; in Aug., Nov. to May. *Propagate* for beds by seeds sown on a shady border in Ap., & kept moist; by division of the plants in May or Aug.

Nasturtium.—A term commonly but erroneously applied to *Tropæolum majus*.

Natal Lily (*Imantophyllum miniatum*)—see Imantophyllum.

Narthecium (Common Bog Asphodel, American Bog Asphodel, Lancashire Asphodel, Yellow Grass, Maiden-hair).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. Asia & America. *Int.* (foreign species) 1811. *Ht.* 6 to 12 in. *Species* cultivated, 1; variety 1. *Flowers*, yellow; June to July. *Soil*, ordinary. *Position*, moist beds, borders or margins of ponds. *Soil*, ordinary, or boggy peat. *Plant*, Oct. or Mar. *Propagate* by seeds sown in Mar. or Ap. where plants are required to grow; division of roots in Oct. or Mar.

Native Holly of Australia (*Lomatia ilicifolia*)—see Lomatia.

Native Ivy of Australia (*Muhlenbeckia adpressa*)—see Muhlenbeckia.

Navel-wort (*Cotyledon umbilicus*)—see Cotyledon.

Neapolitan Cyclamen (*Cyclamen neapolitanum*)—see Cyclamen.

Neapolitan Daphne (*Daphne collina*)—see Daphne.

Neapolitan Maple (*Acer neapolitanum*)—see Acer.

Neapolitan Violet (*Viola odorata pallida plena*)—see Viola.

Necklace Poplar (*Populus monilifera*)—see Populus.

Nectarine-tree (*Persica vulgaris lævis*)—see Perseia.

Neem-tree (*Melia azadiracht*)—see Melia.

Negro's Slippers (*Euphorbia myrtifolia*)—see Euphorbia.

Negundo (Box Elder). *Ord.* Sapindaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* N. America, Japan. *Int.* 1688. *Ht.* 5 to 40 ft. *Species* cultivated, 3; varieties several. *Leaves*, twice or three times divided, green or variegated. *Soil*, well drained sandy loam. *Position*, open shrubberies or singly on lawns or pleasure grounds. *Plant*, Oct. to Mar. *Prune* into shape, Feb. *Propagate* by seeds sown ¼ in. deep in sheltered position outdoors in Oct.; grafting on common species in Mar.; budding in Aug.; layering in Oct.

Neilgherry Lily (*Lilium neilgherrense*)—see Lilium.

Neilgherry Rhododendron (*Rhododendron nilagericum*)—see Rhododendron.

Neillia (Nine Bark).—*Ord.* Rosaceæ. Hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1690. *Ht.* 3 to 5 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; June. *Leaves*, lobed, green

& golden yellow. *Soil*, ordinary. *Position*, open sunny shrubberies or banks. *Plant*, Oct. to Mar. *Prune* flowering species moderately after blooming; variegated variety in Feb. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in sheltered position outdoors, autn. or spring; cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass any time.

Neja.—*Ord.* Compositæ. Half-hardy herbaceous perennials. *Nat.* Uruguay. *Int.* 1828. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow, daisy-like; May to Oct. *Outdoor culture*: *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Ap. *Lift* in Oct. & place in pots in cold frame during winter. *Pot culture: Compost*, two parts sandy loam, one part leaf-mould, half part sand. *Pot*, Mar. or Ap. *Position*, sunny cold frame or cold greenhouse when in flower. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in cold frame, Mar. to Ap.; division of roots, Oct. or Mar.

Nelson's Phlox (*Phlox Nelsoni*)—see Phlox.

Nelumbium (Sacred Bean, Egyptian Bean, Chinese Water Lily, Yellow Nelumbo, Yellow Water Bean, Water Chinquapin).- *Ord.* Nymphaceæ. Greenhouse aquatic rhizomatous-rooted perennials. Orn. foliage & flowering. *Nat.* Asia, Egypt, W. Indies, Southern United States. *Int.* 1787. *Species* cultivated, 2. *Flowers*, yellow, white, rose, fragrant; July to Sept. *Leaves*, shield-shaped, 1 to 2 ft. in diameter, bluish green. *Compost*, two parts loam, one part well decayed manure. *Position*, in tanks or tubs of water heated to a temp. of 60° to 65°. *Plant* rhizomes 3 to 4 in. below surface of water in Feb. or Mar. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. *Draw* off water from tank in Oct., & keep rhizomes dry till Feb. *N. speciosum* may be grown in tank in sunny position outdoors, June to Sept. *Propagate* by seeds sown in sandy soil, 2 to 3 in. below surface of water heated to temp. of 60° to 70° any time of year; division of rhizomes in Feb.

Nelumbo (*Nelumbium speciosum*)—see Nelumbium.

Nemastylis.—*Ord.* Iridaceæ. Half-hardy flowering bulbs. Deciduous *Nat.* Mexico, Southern United States. *Int.* 1875. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, blue, yellow, black; May to June. OUTDOOR CULTURE: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow manure. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½-in. in diameter, well drained. *Place* five bulbs 3 in. deep, in each pot in Nov., & cover with cocoanut fibre refuse in cold frame or under cool greenhouse stage until growth commences. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Nemesia.—*Ord.* Scrophulariaceæ. Half-hardy annuals. *Nat.* S. Africa. *Int.* 1774. *Ht.* 6 to 24 in. *Species* cultivated, 4; varieties many. *Flowers*, white, lilac, yellow, blue, scarlet, magenta, mauve, fragrant; June to Oct. *Soil*, ordinary. *Position*, sunny beds or rockeries. *Propagate* by seeds sown in Mar. $\frac{1}{16}$ in. deep in well drained pots or pans, filled with light fibrous loam & little wood ashes. *Place* in temp. 55° to 65°, transplanting seedlings when they have formed three leaves 1 in. apart in well drained pots, placing in temp. of 55°, & planting into flowering position outdoors in June; also seeds sown in May $\frac{1}{16}$ in. deep in patches outdoors where plants are required to flower, afterwards thinning seedlings to 2 or 3 in. apart. *N. strumosa Suttoni* best kind for general cultivation.

Nemophila (Californian Blue-bell, Love-grove). — *Ord.* Hydrophyllaceæ. Hardy trailing annuals. *Nat.* N. America. *Int.* 1822. *Ht.* 4 to 18 in. *Species* cultivated, about 5; varieties several. *Flowers*, blue. white, purple; May to Nov. OUTDOOR CULTURE: *Soil*, ordinary. *Position*, in masses or in lines as edgings to sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep. in

Mar. or Ap. for flowering in sum.; in Aug. or Sept. for flowering in spring. *Thin* seedlings to 1 or 2 in. apart when ½ in. high. POT CULTURE: *Compost*, two parts good ordinary soil, one part leaf-mould or well decayed manure. *Size* of pots 4½ in. diameter. *Place* 1 in. of drainage in pots, cover with moss & fill up to within ¼ in. of rim with above compost pressed firmly. *Sow* seeds thinly, slightly covering with fine mould, & place pots in cool shady frame or window. *Water* moderately at first; freely when seedlings appear. *Apply* weak stimulants once or twice weekly when plants begin to flower. *Position* when in flower, cold sunny greenhouse, window or frame.

Nepaul Ash (*Fraxinus floribunda*)—see Fraxinus.

Nepaul Bird Cherry (*Cerasus nepalensis*)—see Cerasus.

Nepaul Bladder Senna (*Colutea nepalensis*)—see Colutea.

Nepaul Poppy (*Meconopsis nepalensis*)—see Meconopsis.

Nepaul Saxifrage (*Saxifraga nepalensis*)—see Saxifraga.

Nepaul Trumpet-flower (*Beaumontia grandiflora*)—see Beaumontia.

Nepenthes (Pitcher-plant).—*Ord.* Nepenthaceæ. Stove evergreen sub-shrubby perennials. Orn. foliage. *Nat.* Tropical Asia, Madagascar, Malayan Archipelago. *Int.* 1789. *Ht.* 1 to 2 ft. *Species* cultivated, about 20; hybrids many. *Flowers*, greenish, diœcious, insignificant. *Leaves*, oblong or lance-shaped, terminating in a pitcher-like appendage; green variously mottled with red, brown & crimson. *Compost*, two parts good brown fibrous peat, one part sphagnum moss. *Position* in baskets suspended from roof in shady part of stove. *Plant*, or re-basket, Feb. or Mar. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 65° to 75°. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily all the year round. *Moist* atmosphere very essential. *Shade* from sun. *Propagate* by seeds sown on surface of mixture of fibrous peat & sphagnum moss in well drained pan covered with bell-glass & placed in a moist frame heated to temp. of 80° to 85°; cuttings of one year old shoots inserted singly in small pots plunged in bottom heat of 85° any time.

Nepeta (Cat-mint) —*Ord.* Labiatæ. Hardy herbaceous trailing perennials. *Nat.* Britain, Caucasus. *Species* cultivated, 2; variety 1, variegated. *Flowers*, blue; Ap. to June. *Leaves*, heart-shaped, dark green or variegated with white. *Soil*, ordinary. *Position*, sunny beds, borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown 1/16 in. deep where plants are required to grow, Mar. to May; division of roots, Oct. to Mar.

Nephrodium.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* S. Africa, India, Sandwich Islands, Australasia. *Int.* 1820. *Ht.* 12 in. to 3 ft. *Species* cultivated, about 12; varieties several. *Fronds*, feather-shaped, green, plain or crested. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots, borders or rockeries, in shade. *Pot* or plant, Feb., Mar. or Ap. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Propagate* by spores sown on surface of pans of sandy peat, placed under bell-glass in temp. 75° to 85°, any time.

Nephrolepis (Ladder Fern).—*Ord.* Filices. Stove evergreen ferns. *Nat.* Tropics, Himalayas, Madagascar. *Int.* 1793. *Ht.* 1 to 3 ft. *Species* cultivated, about 8; varieties several. *Fronds*, linear, narrow, once divided, plain or crested. *Compost*, equal parts loam, leaf mould & sand, two parts lumpy peat. *Position*, in baskets suspended from roof, or in well drained pots or beds in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass, & placed in temp. 75° to 85°, any time; division of plants, Feb., Mar. or Ap.; pegging down creeping stems bearing young plants & removing when rooted.

Nerine (Guernsey Lily, Scarlet Guernsey Lily).—*Ord.* Amaryllidaceæ.

Greenhouse & hardy bulbous plants. Deciduous. *Nat.* S. Africa. *Int.* 1680. *Ht.* 8 to 15 in. *Species* cultivated, 17; varieties several. *Flowers*, scarlet, rose, crimson, pink, white; May to Nov. CULTURE OF GREENHOUSE SPECIES: *Compost*, two parts sandy loam, one part well decayed cow manure or leaf-mould, one part coarse sand. *Pot*, Aug. to Nov., placing one bulb half its depth in a 4½-in. pot, or three in a 6-in. pot; good drainage essential. *Position*, light cool greenhouse, Sept. to May; cold frame or sunny spot outdoors, May to Sept. *Water* moderately, Sept. to May or as soon as flower spikes show; keep quite dry, May to Sept. *Apply* stimulants occasionally during growth. *Top-dress* annually with equal parts sandy loam, decayed cow manure & sand in Aug. *Repotting* only necessary every 3 or 4 years. *Season of growth*, Sept. to May; season of rest, May to Sept. CULTURE OF HARDY SPECIES (*N. sarniensis*): *Soil*, light sandy, enriched with decayed cow manure. *Position*, sunny well drained borders at base of S. wall. *Plant*, Aug. to Nov., 2 to 3 in. deep. *Protect*, Nov. to Ap., with covering of dry litter. *Top-dress* annually in Aug. with leaf-mould or decayed cow manure. *Lift* & replant every four or five years. *Propagate* by offsets removed when repotting & treated as old bulbs.

Nerium (Oleander, Rose-Bay).—*Ord.* Apocynaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Mediterranean district. *Int.* 1596. *Ht.* 6 to 12 ft. *Species* cultivated, 1; varieties 15. *Flowers*, red, white, pink, crimson, rose, purple, yellow, single & double, fragrant; June to Oct. *Compost*, two parts sandy loam, one part well decomposed manure, one part leaf-mould & one part sand. *Position*, pots, tubs or well drained beds in light sunny greenhouse or window; place pot or tub plants outdoors, June to Sept. *Pot* or plant, Feb. or Mar. *Prune* immediately after flowering, or in Oct., shortening shoots of previous year's growth to within 3 or 4 in. of their base. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Apply* stimulants once or twice weekly, May to Sept. *Remove* young shoots that issue from base of flower trusses as soon as they appear. *No* shade required. *Syringe* twice daily, Mar. to June. *Propagate* by cuttings of firm young shoots, 3 to 6 in. long, inserted in bottles of rain water, suspended in sunny window or greenhouse in sum.; or singly in 2-in. pots in a compost of equal parts peat, loam, leaf-mould & sand, placed under bell-glass in temp. 60° to 70°, spring or sum.

Nertera (Fruiting Duckweed, Coral-berried Duckweed, Bead Plant).—*Ord.* Rubiaceæ. Greenhouse & half-hardy creeping perennial herb. Orn. fruiting. *Nat.* Australasia. *Int.* 1868. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, greenish; all the year round. *Berries* round, bright orange red or crimson. INDOOR CULTURE: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, small well drained pots or pans in shady part of greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Oct., 50° to 60°; Oct. to Mar., 40° to 50°. OUTDOOR CULTURE: *Soil*, ordinary light rich. *Position*, moist sheltered ledges of shady rockery. *Plant*, Mar. to Ap. *Water* freely in dry weather. *Protect* in severe weather with bell or hand-glass. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in temp. 55° to 65° Mar. or Ap.; division of plants in Mar. or Ap.

Nerve-root (*Cypripedium pubescens*)—see Cypripedium.

Netted Camellia (*Camellia reticulata*)—see Camellia.

Netted Chain-Fern (*Woodwardia angustifolia*)—see Woodwardia.

Netted-flowered Toad-flax (*Linaria reticulata*)—see Linaria.

Neottopteris (Bird's-nest Fern).—*Ord.* Filices. Stove evergreen ferns. *Nat.* E. Indies, Australia. *Int.* 1820. *Ht.* 3 ft. *Species* cultivated, 2. *Fronds*, large, broad, undivided, green. *Compost*, two parts peat, one each loam, leaf-mould & sand. *Pot*, Mar. *Water* freely in sum.; moderately in winter. *Syringe* roots at base of fronds several times daily, Ap. to Sept.; occasionally, Sept. to Ap. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 75° to 85° at any time.

Netted-leaved Willow (*Salix reticulata*)—see Salix.

Netted-veined Bamboo (*Bambusa reticulata*)—see Bambusa.

Nettle Geranium (*Coleus fruticosus*)—see Coleus.

Nettle-leaved Bell-flower (*Campanula Trachelium*)—see Campanula.

Nevada Lily (*Lilium Washingtonianum*)—see Lilium.

New Caledonia Pine-tree (*Araucaria Cooki* & *A. Rulei*)—see Araucaria.

New England Star-wort (*Aster Novæ-Angliæ*)—see Aster.

New Jersey Tea-plant (*Ceanothus americanus*)—see Ceanothus.

Newman's Cone-flower (*Rudbeckia Newmani*)—see Rudbeckia.

New South Wales Star-wort (*Olearia dentata*)—see Olearia.

New York Star-wort (*Aster Novi-Belgi*)—see Aster.

New Zealand Arbor-vitæ (*Libocedrus Doniana*)—see Libocedrus.

New Zealand Blue-bell (*Wahlenbergia saxicola*)—see Wahlenbergia

New Zealand Box-tree (*Veronica buxifolia*)—see Veronica.

New Zealand Clematis (*Clematis indivisa lobata*)—see Clematis.

New Zealand Crow-foot (*Ranunculus Lyalli*)—see Ranunculus.

New Zealand Daisy Bush (*Olearia Haastii*)—see Olearia.

New Zealand Dragon-plant (*Dracæna australis*)—see Dracæna.

New Zealand Flax (*Phormium tenax* & *P. Colensoi*)—see Phormium.

New Zealand Fuchsia (*Fuchsia Colensoi*, *F. excorticata* & *F. procumbens*)—see Fuchsia.

New Zealand Glory-Pea (*Clianthus puniceus*)—see Clianthus.

New Zealand Hanging-tree Spleen-wort (*Asplenium flaccidum*)—see Asplenium.

New Zealand Hare-bell (*Wahlenbergia saxicola*)—see Wahlenbergia.

New Zealand Holly (*Osmanthus ilicifolius*)—see Osmanthus.

New Zealand Ivy (*Panax Colensoi*)—see Panax.

New Zealand Laburnum-tree (*Edwardsia grandiflora*) — see Edwardsia.

New Zealand Palm (*Areca sapida*)—see Areca.

New Zealand Pine-tree (*Dacrydium cupressinum*)—see Dacrydium.

New Zealand Plume-grass (*Arundo conspicua*)—see Arundo.

New Zealand Reed (*Arundo conspicua*)—see Arundo.

New Zealand Spinach (*Tetragonia expansa*)—see Tetragonia.

New Zealand Spruce (*Dacrydium cupressinum*)—see Dacrydium.

New Zealand Shore Spleen-wort (*Asplenium obtusatum*) — see Asplenium.

New Zealand Spleen-wort (*Asplenium bulbiferum*)—see Asplenium.

New Zealand Tree-fern (*Dicksonia antarctica*, *D. lanata*, & *D. squarrosa*)—see Dicksonia.

New Zealand Water-lily (*Ranunculus Lyalli*)—see Ranunculus.

Nicandra (Apple-of-Peru).—*Ord.* Solanaceæ. Hardy annual. *Nat.* Peru. *Int.* 1759. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, blue, white; July to Sept. *Soil*, ordinary. *Position*, sunny open borders. *Propagate* by seeds sown ⅛ in. deep in pots or boxes of light soil in temp. 55° to 65° in Mar., transplanting seedlings 3 ft. apart outdoors in May; or by sowing seed in sunny position outdoors in Ap., transplanting seedlings in June.

Nicobar Bread-fruit Tree (*Pandanus odoratissimus*)—see Pandanus.

Nicotiana (Tobacco Plant).—*Ord.* Solanaceæ. Greenhouse & half hardy annuals & perennials. Flowering & orn. foliage. *Nat.* America, Australia, Buenos Ayres, Brazil, Chili, Persia, Columbia. *Int.* (common tobacco) 1570. *Ht.* 2 to 4 ft. *Species* cultivated, about 12; varieties several. *Flowers* white, yellow, rose; fragrant; June to Nov. *Leaves*, large, egg or lance-shaped green. POT CULTURE OF N. AFFINIS: *Compost*, two parts loam, one part leaf mould or decayed manure, & one part sand. *Position*, sunny or shady green house or window. *Water* freely when in full growth; moderately at othe times. *Apply* stimulants once or twice a week when in flower. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. OUTDOOR CULTURE OF N. AFFINIS: *Soil*, ordinary. *Position*, sunny beds or borders. *Plant* in June in groups of three or six. *Protect* in winter with covering of cinder ashes, tan or decayed manure. Will only survive winter in well drained soils. Although really a perennial, is generally treated as an annual for in and outdoor culture. CULTURE OF ANNUAL SPECIES (N. acutiflora & N. tabacum): *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Gather* leaves of N. tabacum in Sept. for drying. *Water* freely in dry weather. CULTURE OF PERENNIAL SPECIES (*N. suaveolens*, etc.): *Compost*, two parts loam, one part leaf mould & sand. *Position*, well drained pots in sunny greenhouses all the year round, or sunny borders outdoors, June to Sept. *Pot*, Mar. *Plant*, outdoors, June. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants to pot plants once a week. *Repot* annually. *Lift* outdoor plants in Sept. *Propagate* N. affinis by seeds sown on the surface of fine light mould in a shallow box or pan in shade, in a temp. of 65° to 75°, in Mar. or Ap., also by cuttings of the roots inserted in sandy soil in temp. 55° to 65° in autn. or spring; annual species by seeds sown as above; perennial species by seeds as above, or by division of the roots in Mar.

Nidpath Castle Yew-tree (*Taxus baccata Nidpathensis*)—see Taxus.

Nierembergia (Tall Cup-flower, Trailing Cup-flower).—*Ord.* Solanaceæ. Hardy and half-hardy creeping perennial herbs. *Nat.* Buenos Ayres, Chili, La Plata. *Int.* 1831. *Ht.* 6 to 12 in. *Species* cultivated, 2 hardy; 3 half-hardy. *Flowers*, blue, purple, lilac, yellow, white, rose; May to Sept. CULTURE OF HARDY SPECIES (*N. frutescens* & *N. nivularis*): *Soil*, equal parts sandy loam & leaf-mould. *Position*, sunny or moist border or ledges of rockery. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Top-dress* annually in Mar. with decayed cow manure. *Protect* in very severe weather with covering of litter. CULTURE OF HALF-HARDY SPECIES: *Compost*, two parts sandy loam, one part well decomposed cow manure & one part sand. *Position*, well drained pots or pans in shady part of greenhouse or cold frame all the year round, or outdoors in shady spot, May to Oct. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Propagate* by seeds sown in light sandy soil in temp. 55° to 65°, Nov. to Ap.; cuttings inserted in sandy soil under bell-glass in shady part of cool greenhouse in Aug., transferring when well rooted singly into 2-in. pots, & placing in light airy position in greenhouse or window.

Nigella (Fennel-flower, Devil-in-a-bush, Jack-in-prison, Love-in-a-mist, Lady-in the-bower, Love-in-a-puzzle, St. Katherine's Flower, Spanish Fennel-flower).—*Ord.* Ranunculaceæ. Hardy annuals. *Nat.* S. Europe, Asia Minor, N. Africa. *Int.* 1548. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, white, blue, yellow, brown, red; June to Oct.; surrounded by a green mossy involucre. *Foliage*, green, graceful, feathery. *Soil*, ordinary. *Position*, sunny open beds or borders. *Propagate* by seeds sown ½ in. deep in lines, bands or masses in Mar. or Ap.; thin seedlings out 6 in. apart each way, May or June.

Night-flowering Catch-fly (*Silene noctiflora*)—see Silene.

Night-scented Stock (*Hesperis tristis* & *Mathiola odoratissima*)—see Hesperis & Mathiola.

Nikau Palm (*Areca sapida*)—see Areca.

Nikau Palm-tree (*Kentia sapida*)—see Kentia.

Nile Bull-rush (*Papyrus antiquorum*)—see Papyrus.

Nimble Will (*Muhlenbergia diffusa*)—see Muhlenbergia.

Nine Bark (*Neillia opulifolia*)—see Neillia.

Nine-leaved Wood-Sorrel (*Oxalis enneaphylla*)—see Oxalis.

Niphobolus (Climbing Polypody).—*Ord.* Filices. Stove & greenhouse ferns. *Nat.* E. Indies, China, Australia. *Int.* date unknown. *Ht.* 3 to 12 in. *Species* cultivated, about 6. *Fronds*, strap-shaped, leathery, greyish green. *Compost*, two parts rough fibrous peat, one part loam, leaf-mould & sand. *Position*, drooping species in baskets; erect kinds in pots, well drained, in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately in winter; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75° for stove species; Sept. to Mar., 50° to 60°; Mar. to Sept., 55° to 65° for greenhouse species. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; by division of plants at potting time.

Niple Cactus (*Mammillaria bicolor*)—see Mammillaria.

Noah's Ark (*Cypripedium pubescens*)—see Cypripedium.

Noble Bell-flower (*Campanula grandiflora*)—see Campanula.

Noble Silver Fir (*Picea nobilis*)—see Picea.

Noble Stone-crop (*Sedum spectabile*)—see Sedum.

Noble Yarrow (*Achillea filipendula*)—see Achillea.

Noisette Rose (*Rosa indica Noisettiana*)—see Rosa.

Nolana (Chilian Bell-flower).—*Ord.* Convolvulaceæ. Hardy annuals. *Nat.* Peru, Chili. *Int.* 1761. *Ht.* 6 in. *Species* cultivated, 5. *Flowers*, white, yellow, blue; May to Oct. *Soil*, ordinary. *Position*, open sunny beds, borders or rockeries. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in patches in Mar. or Ap. where plants are required to grow, thinning seedlings to 2 or 3 in. apart in May or June.

None-so-Pretty (*Saxifraga umbrosa*)—see Saxifraga.

None-such (*Lychnis chalcedonica*)—see Lychnis.

Noon-Flower (*Tragopogon pratensis*)—see Tragopogon.

Nootka Fir (*Abies Douglasi*)—see Abies.

Nootka Sound Arbor-vitæ (*Thuia plicata*)—see Thuia.

Nootka Sound Cypress (*Cupressus nutkænsis*)—see Cupressus.

Norfolk Island Glory-Pea (*Clianthus carneus*)—see Clianthus.

Norfolk Island Palm (*Kentia Baueri*)—see Kentia.

Norfolk Island Pine-tree (*Araucaria excelsa*)—see Araucaria.

Norfolk Island Tree-fern (*Alsophila excelsa*)—see Alsophila.

Normandy Cress (*Barbarea præcox*)—see Barbarea.

North American Barberry (*Berberis canadensis*)—see Berberis.

North American Crab (*Pyrus coronaria*)—see Pyrus.

Northern Choke Cherry (*Cerasus borealis*)—see Cerasus.

Northern Chrysanthemum (*Chrysanthemum arcticum*)—see Chrysanthemum.

Northern Fox Grape (*Vitis Labrusca*)—see Vitis.

Northern Rock-cress (*Arabis petræa*)—see Arabis.

Norway Maple (*Acer platanoides*)—see Acer.

Norway Pine-tree (*Abies excelsa*)—see Abies.

Norway Spruce (*Abies excelsa*)—see Abies.

Nosegay-tree (*Plumieria rubra*)—see Plumieria.

Notch-petalled Barberry (*Berberis emarginata*)—see Berberis.

Notched Fringe-flower (*Schizanthus retusus*)—see Schizanthus.

Nothochlæna (Cloak Fern, Woolly Cloak Fern, Hardy Cloak Fern). *Ord.* Filices. Stove, greenhouse & hardy evergreen ferns. *Nat.* Australia, W. Indies, Mexico, Chili, S. Europe, Africa. *Int.* 1778. *Ht.* 3 to 18 in. *Species* cultivated, 5 stove; 10 greenhouse; 1 hardy. *Fronds*, once or thrice divided, upper surface green, under covered with white powder or scales. Culture of Stove and Greenhouse Species: *Compost*, equal parts loam, leaf-mould, peat & sand, with little charcoal & sandstone broken small. *Position*, pots in shady part of house. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Feb.; freely other times. *Syringing* not required. *Temp.*, stove species, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°; greenhouse species, Sept. to Mar., 45° to 50°; Mar. to Sept., 55° to 65°. Culture of Hardy Species (*N. Marantæ*): *Soil*, peaty. *Position*, moist sheltered nook of shady rockery. *Plant*, Ap. *Water* freely in dry weather. *Propagate* by spores sown on surface of fine sandy peat in pans under bell-glass in temp. 75° to 85° any time; division at potting time.

Notched-leaved Winter-green (*Pyrola secunda*)—see Pyrola.

Nottingham Catch-fly (*Silene nutans*)—see Silene.

Nuphar (Yellow Water-Lily, Bobbins, Brandy-bottle, Can-Dock, Clote, Edible-fruited Water-Lily, Three-coloured Water-Lily, Striped-flowered Water-Lily, American Yellow Pond-Lily, Small Yellow Water-Lily).—*Ord.* Nymphaceæ, Hardy aquatic perennial herbs. *Nat.* Europe (Britain), Asia, N. America. *Int.* (foreign species) 1772. *Species* cultivated, 3; varieties several. *Flowers*, yellow; June to Sept. *Soil*, two parts strong rich loam, one part well decayed manure. *Position*, sunny shallow streams, ponds or lakes. *Depth of water*, 6 to 12 in. *Plant*, Mar. or Oct. *Methods of planting*: (1) Fill a shallow wicker basket with compost, place the plant in it & a few stones on the surface, then lower into the water. (2) Place some compost round the roots, then add a few stones & surround with canvas or matting & lower into the water. *Propagate* by seeds sown ¼ in. deep in rich soil in a shallow basket immersed in water, Oct. to Ap.; division of the plant in Mar.

Nut-bush (*Corylus avellana*)—see Corylus.

Nutmeg Myrtle (*Myrtus communis lusitanica acuta*)—see Myrtus.

Nut Pine-tree (*Pinus edulis*)—see Pinus.

Nuttallia (Oso-berry-tree).—*Ord.* Rosaceæ. Hardy deciduous evergreen shrub. *Nat.* California. *Int.* 1848. *Ht.* 4 to 5 ft. *Species* cultivated, 1. *Flowers*, white; Mar. & Ap., succeeded by purplish plum-like fruit. *Soil*, ordinary. *Position*, shady or sunny shrubberies. *Plant*, Oct. to Feb. *Prune* when necessary immediately after flowering. *Propagate* by seeds sown ⅛ in. deep in ordinary soil in shady position outdoors in spring or autn.; suckers removed from parent plant & planted Oct. or Nov.

Nycterinia.—*Ord.* Scrophulariaceæ. Half-hardy annuals. *Nat.* S. Africa. *Int.* 1824. *Ht.* 3 to 12 in. *Species* cultivated, 2. *Flowers*, white, orange; fragrant at night; May to Sept. *Soil*, rich sandy loam. *Position*, warm sunny borders or rockeries. *Propagate* by seeds sown on surface of fine light mould & slightly covered with silver sand & placed in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June, or sow seeds $\frac{1}{16}$ in. deep outdoors in May where plants are required to flower. *Water* freely in dry weather. *Mulch* with layer of cocoanut-fibre refuse in June.

Nymphæa (White Water-Lily, Egyptian Lotus, Hardy Red Water-Lily, Australian Water-Lily, Zanzibar Water-Lily, Tuberous-rooted Water-Lily, Amazon Water-Lily, Florida Water-Lily, American Sweet-scented Water-Lily, Chinese Water-Lily, Pigmy Water-Lily).—*Ord.* Nymphaceæ. Stove & hardy aquatic tuberous-rooted perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Jamaica, United States, Cape of Good Hope, Egypt, W. Africa, Siberia, Central Asia, Australia. *Int.* (foreign species) 1786. *Species* cultivated, stove, 11; hardy, 6; varieties several. *Flowers*, white, yellow, rose, blue, red; mostly fragrant; June to Oct. Culture of Stove Species: two parts rich turfy loam & one part well decayed manure. *Position*, large pots or tubs immersed 8 to 12 in. below surface of water in tanks fully exposed to light. *Plant*, Feb. to Ap. *Temp. of atmosphere*, 65° to 75°, Mar. to Sept.; 60° to 60°, Sept. to Mar. *Temp. of water*, 65° to 75°, Mar. to Sept.; 55° to

65°, Sept. to Mar. *Repot* annually in Feb. or Mar. CULTURE OF HARDY SPECIES: *Compost*, two parts strong rich loam, one part well decayed manure. *Position*, open sunny ponds or lakes. *Depth* of water, 2 to 3 ft. *Plant*, Mar. to Oct. *Methods of planting*: (1) Place plant in small wicker basket containing above compost, & lower to the bottom of pond or lake. (2) Inclose roots with soil & large stone in piece of canvas or matting, tie securely & immerse as above. (3) Place large hillock or mound of compost at bottom of pond when dry & plant tubers in centre, afterwards submerging with water. *Propagate* stove species by seeds sown $\frac{1}{8}$ in. deep in pots of rich soil immersed in water heated to a temp. of 65° to 75°, Mar. or Ap. Hardy species by seeds sown $\frac{1}{4}$ in. deep in rich soil in shallow basket & immersed in ponds or lakes in spring; division of tubers or rhizomes, Mar. or Ap.

Oak (*Quercus robur*)—see Quercus.

Oak Fern (*Polypodium dryopteris*)—see Polypodium.

Oak Manna-tree (*Quercus vallonea & Q. persica*)—see Quercus.

Oblique-leaved Adam's Needle (*Yucca obliqua*)—see Yucca.

Oblique-leaved Beech (*Fagus obliqua*)—see Fagus.

Oblong-leaved Dog-wood (*Cornus oblonga*)—see Cornus.

Ochna.—*Ord.* Orchidaceæ, Stove evergreen flowering shrubs. *Nat.* Sierra Leone, Cape of Good Hope. *Int.* 1816. *Ht.* 3 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow; Mar. to July; succeeded by black & crimson globular fruits. *Compost*, equal parts fibrous loam, peat & sand. *Position*, well drained pots in sunny light part of stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Feb. to Oct. *Temp.*, Mar. to Sept., 70° to 75°; Sept. to Mar., 60° to 65°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 65° to 75° sum.

Ocymum (Sweet Basil, Common Basil, Bush Basil).—*Ord.* Labiatæ. Half-hardy annual aromatic herbs. *Nat.* India, Asia, Africa, Chili. *Int.* 1548. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, white; July to Sept. *Leaves*, egg-shaped, aromatic; used for flavouring stews, soups & salads. *Soil*, ordinary light rich. *Position*, sunny well drained border. *Plant*, 6 in. apart in rows 9 to 12 in. asunder in May. *Shade* from sun first few days after planting. *Water* freely in dry weather. *Gather* leaves & tops when coming into flower, dry & reduce to powder for winter use. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in shallow box in temp. 55° to 65° in Mar., transplanting seedlings when three leaves are formed an inch apart in similar soil, & gradually harden off in cold frame.

Odontoglossum (Almond-scented Orchid, Violet-scented Orchid).——*Ord.* Orchidaceæ. Greenhouse epiphytal & terrestrial orchids. Evergreen. *Nat.* Tropical America. *Int.* 1835. *Ht.* 6 to 12 in *Species* cultivated, about 60; hybrids & varieties many. *Flowers*, various shades of white, purple, brown, rose, yellow, lilac, red; almond, violet, lemon & hawthorn-scented; all the year round. *Flower* spikes produced from base of pseudobulbs. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, teak-wood baskets or pans suspended from roof, blocks of wood, well drained pots; partial shade in sum.; exposed to full light at other times. *Pot*, Feb., Mar. or Ap. Fill pots or pans two thirds of their depth with potsherds & charcoal. Place layer of moss on drainage, & fill remainder of space with compost to 1 in. above rim. Secure plant on this by means of fine copper wire, & top-dress with layer of sphagnum moss. *Blocks:* Place roots next wood, cover with layer of fibry peat & sphagnum moss, & secure firmly with copper wire. *Water* daily, Ap. to Sept., twice a week Sept. to Nov. & Feb. to Ap.; keep almost dry during remainder of year. *Syringe* lightly daily in sum. Keep atmosphere uniformly moist in sum. by damping stages, floor, etc., several times daily. *Ventilate* freely in sum.; moderately other times. *Temp.*, May to Sept., 55° to 65°; Sept. to

Feb., 45° to 55°; Feb. to May, 50° to 60°. *Growing period*, Mar. to Nov.; *resting period*, Dec. to Feb. *Propagate* by division of the pseudo-bulbs at potting time.

Œnothera (Evening Primrose, Sun-drops, Tree Primrose, Large Rampion).—*Ord.* Onagrariaceæ. Hardy annuals, biennials, herbaceous & shrubby perennials. *Nat.* Chili, California, Texas, N. America, United States, Mexico, Patagonia. *Int.* 1629. *Ht.* 6 in. to 4 ft. *Species* cultivated, 20 perennials, 2 biennials, 7 annuals; varieties many. *Flowers*, yellow, pink, purple; May to Sept. CULTURE OF ANNUAL SPECIES: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in patches or masses in Ap. where plants are required to flower. *Thin* seedlings 4 to 6 in apart in June. CULTURE OF BIENNIAL SPECIES: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in shady position outdoors in Ap., transplanting seedlings when 1 in. high, 3 in. apart each way, in sunny border, again transplanting into flowering position, following Sept. or Mar. CULTURE OF PERENNIAL SPECIES: *Soil*, light sandy loam. *Position*, sunny well drained borders, beds or rockeries. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Mulch* annually with decayed cow manure. *Lift* & replant every 3 or 4 years. *Prune* away straggling shoots of shrubby species after flowering. *Propagate* by seeds sown in light soil in shallow box or well drained pans in cold frame or under hand-light in Mar. or Ap., transplanting outdoors end of May or June; cuttings of young shoots inserted in sandy soil under hand-light in shade in spring or sum.; suckers removed with roots attached, spring or autn.; division of roots, Mar. or Ap.

Oil Nut (*Ricinus communis*)—see Ricinus.

Old Garden Chrysanthemum (*Chrysanthemum coronarium*)—see Chrysanthemum.

Old Man (*Artemisia abrotanum*)—see Artemisia.

Old Man Cactus (*Pilocereus sensilis*)—see Pilocereus.

Old Man's Beard (*Clematis vitalba*)—see Clematis.

Olea (Olive, Oleaster).—*Ord.* Oleaceæ. Half-hardy evergreen flowering shrub. *Nat.* S. Europe. *Int.* 1570. *Ht.* 6 to 10 ft. *Species* cultivated, 1; variety 1. *Flowers*, white, yellowish; fragrant; June to Sept. *Soil*, sandy loam. *Position*, sheltered sunny borders or against S. or W. walls, S. of England only. *Plant*, Sept., Oct. or Ap. *Prune* when necessary, Ap. *Protect* in very severe weather with litter or mats. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, cool greenhouse, Sept. to May; outdoors, June to Sept. *Temp.*, Sept. to May, 40° to 50°. *Water* moderately in winter; freely in sum. *Syringe* daily, Ap. to Sept. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in greenhouse in spring or autn.; cuttings inserted in sandy soil under bell-glass in shade in greenhouse in sum.

Oleander (*Nerium oleander*)—see Nerium.

Oleander Fern (*Oleandra neriiformis*)—see Oleandra.

Oleandra (Oleander Fern).—*Ord.* Filices. Stove evergreen ferns. Stems rhizomatous & scandent. *Nat.* Ceylon, W. Indies, N. India, Mascaren Islands. *Int.* date unknown. *Ht.* 1 ft. *Species* cultivated, 5. *Fronds*, strap-shaped, green. *Compost*, two parts peat & one of loam, leaf-mould & sand. *Position*, hanging baskets, or against pillars & walls covered with layer of peaty soil secured by wire netting. *Plant*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* plants on pillars & walls daily, Mar. to Oct. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85°, any time; division of creeping rhizomes at potting time.

Olearia (New South Wales Starwort, New Zealand Daisy Bush, Victorian Snow Bush).—*Ord.* Compositæ. Hardy evergreen flowering shrubs. *Nat.* Australia, New Zealand. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species* cultivated, 4. *Flowers*, rose, white; Mar. & Ap., Aug. & Sept. Outdoor Culture: *Soil*, sandy loam. *Position*, sunny borders or rockeries for O. Haastt, S. or W. walls for O. dentata, O. Gunniana & O. Forsteri. *Plant*, Sept. to Nov. or Ap. *Protect* those grown against walls during very severe weather by covering of mats or straw. *Pruning* not required, except to remove dead or unhealthy shoots in Ap. Not adapted for outdoor culture in N. of England. Pot Culture: *Compost*, two parts sandy loam, one part leaf-mould or peat, one part sand. *Position*, well drained pots or in beds with shoots trained up pillars or against walls in cold greenhouses or conservatories. *Pot* or plant, Sept. to Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* freely in sum., except when in bloom. *Place* pot plants in sunny position outdoors until they flower. *Plunge* pots to rim in cinder ashes. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy soil under bell-glass in cold shady frame or greenhouse in sum.

Oleaster (*Elæagnus angustifolia* & *Olea europæa*)—see Elæagnus & Ole

Olive-leaved Daphne (*Daphne oleoides*)—see Daphne.

Olive Oil-plant (*Olea europæa*)—see Olea.

Olive-tree (*Olea europæa*)—see Olea.

Olympian Mullein (*Verbascum olympicum*)—see Verbascum.

Oncidium (Butterfly Orchid, Flower of the Dead, Spread Eagle Orchid) —*Ord.* Orchidaceæ. Stove & greenhouse epiphytal orchids. *Nat.* Tropical America & W. Indies. *Int.* 1791. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 180. *Flowers*, various shades of yellow, brown, crimson, white & red; all the year round. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, pots, wood or earthenware baskets, rafts or blocks. *Pot*, Feb. or Mar. Fill pots or pans two thirds of their depth with potsherds. *Place* layer of moss on this, then fill remainder of space with compost to 1 in. above rim. Put plant on this, cover roots with compost & layer of moss, & secure firmly with copper wire. *Baskets*: Line interior with moss, then fill with compost & place plant on top, securing it firmly with copper wire. *Blocks*: Place roots next wood, cover with peat & sphagnum moss, & secure firmly with copper wire. *Water* plants on blocks twice daily in sum., once a day other times; those in pots & baskets once a day, Ap. to Sept., twice a week, Sept. to Nov. & Feb. to Ap., once a week afterwards. *Syringe* lightly daily in sum. *Moist* atmosphere highly essential. *Shade* from bright sunshine only. *Ventilate* freely in sum. *Temp.* for stove species, Nov. to Ap., 60° to 70°; Ap. to Nov., 70° to 85°; for greenhouse species, May to Oct, 65° to 75°; Oct. to May, 55° to 65°. *Growing period*, Mar. to Sept.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Omphalodes (Venus's Navel-wort, Rock Forget-me-not, Creeping Forget-me-not).—*Ord.* Boraginaceæ. Hardy annual & perennial herbs. *Nat.* S. Europe, Asia Minor. *Int.* 1633. *Ht.* 4 to 12 in. *Species* cultivated, 2 perennials; 1 annual. *Flowers*, white, blue; Mar. to Aug. Culture of Annual Species (O. linifolia): *Soil*, ordinary. *Position*, partially shaded borders. *Sow* seeds in masses where required to grow in Ap. to flower in June, June to flower in Sept., & Sept. to flower in spring. Culture of Perennial Species: *Soil*, ordinary rich moist. *Position*, partially shaded well drained borders or rockeries, or in rhododendron beds. *Plant*, Oct., Nov., Mar. or Ap. *Water* copiously in dry weather. *Mulch* with decayed cow manure annually in spring. *Propagate* by seeds sown ⅛ in. deep in light rich soil in semi-shaded position in Ap., transplanting seedlings when 1 in. high; division of roots in Mar. or Ap.

One-flowered Crow-foot (*Ranunculus uniflorus*)—see Ranunculus.

One-flowered Winter-green (*Pyrola uniflora*)—see Pyrola.

One-leaved Daffodil (*Narcissus monophyllus*)—see Narcissus.

Onion (*Allium cepa*).—*Soil*, light, deep, rich ordinary. *Position*, open, sunny. *Solid manures*: fowl dung, applied at the rate of 1 cwt. to a square rod in Feb.; pig dung at the rate of 2 cwt. to a square rod, applied in autn.; night soil, 2 cwt. to a square rod in Feb.; cow dung, 3 cwt. to a square rod; horse dung, 3 cwt. to a square rod, both applied in autn.; 1½ lb. superphosphate, 1½ lb. nitrate of soda, 1 lb. kainit, 3 lb. common salt, half to be applied ten days before sowing to a square rod; remainder when plants are 2 in. high (Sanders); 1 lb. nitrate of soda, ¼ lb. of guano, 3 oz. kainit, 3 oz. sulphate of iron, half to be applied to a square rod when plants are 3 in. high, remainder month afterwards (Griffiths); common salt 3 oz., and soot 3 oz., applied to a square yard fourteen days before sowing; superphosphate 3 lb., nitrate of soda 1½ lb., to be applied a fortnight before sowing the seed, followed by 1½ lb. of nitrate of soda when plants are 3 in. high. *Liquid manures*: nitrate of soda ¼ oz. to 1 gallon of water, applied occasionally when seedlings are 3 in. high; Peruvian guano, 1 oz. to gallon, applied similarly; fowl & pigeon dung ½ peck, soot ½ peck, soaked in 30 gallons of water, applied undiluted occasionally to seedlings when 3 in. high. Spring Onions: *Sow* seeds broadcast, or in drills ¼ in. deep & 8 in. apart, Mar.; rows to run N. & S. if possible; or in shallow boxes of light soil in temp. 55° to 65° in Feb. or Mar., transplanting seedlings outdoors in Ap. or May. *Firm* soil essential. *Thin* seedlings when 2 to 3 in. high to 6 in. apart. *Lift* in Aug., dry thoroughly in sun, & store in cool dry place. Winter Onions: *Soil* & manures as above. *Sow* end of Aug. or beginning of Sept. ¼ in. deep in drills 8 in. apart. *Thin* to 8 in. apart in Mar. Transplant thinnings in Mar. 6 in. apart in rows 12 in. asunder. *Lift* in July or Aug., dry and store away. *Quantity* of seed required for a row 50 ft. long, ¼ oz.; for bed 9 square yards, 1 oz. Potato Onion (*Allium cepa var. aggregatum*); *Soil* & manures as above. *Plant* bulbs half their depth, 10 in. apart in rows 15 in. asunder, Jan. or Feb. When leaves are full grown, remove soil from base of bulb and apply stimulants. *Lift*, dry & store away in Aug. Tree Onion (*Allium cepa var. proliferum*): *Soil*, ordinary rich. *Position*, sunny. *Plant* ground bulbs 1 in. deep & 12 in. apart each way in Mar.; stem bulbs 1½ in. deep, 4 in. apart in rows 8 in. asunder. *Support* stems with stakes. *Gather* stem bulbs when mature & store away in cool dry dry place. Leeks (*Allium porrum*): *Soil*, light rich. *Position*, open, sunny. *Plant* June to Aug. *Modes of Growing*: (1) trenches 15 in. wide & 18 in. deep, containing 6 in. of decayed pig, cow, or horse manure, or night soil, & 6 in. of good soil on this; (2) drills 6 in. deep 12 in. apart, no manure except that dug in soil; (3) holes 3½ in. in diameter 3 to 4 in. deep made with dibbler, roots to rest on bottom of hole & be just covered with fine soil; (4) on the level surface, stem to be buried up to base of leaves. *Distance* for planting, 9 in. apart in rows 12 to 18 in. asunder. *Draw* soil up to base of leaves as stems grow. *Water* freely in dry weather. *Apply* stimulants as advised for onions. *Remove* flower stems at once. *Transplant* large plants in Mar. in sunny position for bearing seed. *Gather* seed heads in Sept., tie in bunches, & hang in cool dry shed. *Sow* seeds in light soil in temp. 65° in Feb. for planting out in June; ¼ in. deep in drills 6 in. apart outdoors in Mar. or Ap. for planting in July & Aug. Chives (*Allium schœnoprasum*): *Soil*, ordinary. *Position*, open sunny border. *Plant*, 6 in. apart in rows 9 in. asunder, Mar. *Lift*, divide & replant every five years. Shallots (*Allium ascalonicum*): *Soil*, light, rich. *Position*, warm sunny border. *Plant*, Feb. or Mar., placing bulbs (cloves) half their depth in soil, 9 in. apart, in rows 12 in. asunder. *Draw* earth away from base of bulbs when nearly full grown. *Lift*, dry & store away in Aug. *Apply* stimulants as for onions. Garlic (*Allium sativum*): *Soil* & position as for shallots. *Plant* bulbs (cloves) 2 in. deep & 8 in. apart each way in Feb. *Lift*, dry & store away in Aug. *No* stimulants required. *Propagate* onion & leek by seed as above; tree onion by stem or ground bulbs; potato onion, shallots & garlic by offsets; chives by division in Mar.

Onion Asphodel (*Asphodelus fistulosus*)—see Asphodelus.

Onion Iris (*Iris tuberosa*)—see Iris.

Onion Oil-plant (*Allium cepa*)—see Allium.

Onion Plant (*Ornithogalum longibracteatum*)—see Ornithogalum.

Onoclea (Sensitive Fern).—*Ord.* Filices. Hardy deciduous fern. *Nat.* N. America, N. Asia. *Int.* 1799. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; variety, 1. *Fronds*, barren ones, broad, once divided, green; fertile ones, narrow, contracted, once divided, brown. OUTDOOR CULTURE: *Soil*, two parts good loam, one part leaf-mould. *Position*, semi-shaded cool moist border or margin of ponds. *Plant*, Ap. POT CULTURE: *Compost*, two parts fibrous loam, one part leaf-mould, one part sand. *Position*, well-drained pots in shady cold frame or greenhouse. *Pot*, Mar. or Ap. *Water* copiously, Ap. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Repot* annually. *Propagate* by spores gathered just before the cases burst & sown on surface of well-drained pan of sandy peat & leaf-mould with square of glass, & kept moderately moist in shady position in cold frame or greenhouse; division of plants, Mar. or Ap.

Ononis (Rest-harrow).—*Ord.* Leguminosæ. Hardy annuals, herbaceous perennials & deciduous shrubs. *Nat.* S. Europe. *Int.* 1570. *Ht.* 1 to 2 ft. *Species* cultivated, 1 annual; 2 perennials; 1 shrubs. *Flowers*, yellow, purple, white, pink; May to Sept. CULTURE OF ANNUAL SPECIES: *Sow* seeds $\frac{1}{8}$ in. deep in patches in ordinary soil in sunny position in Ap. or Sept. where required to grow. CULTURE OF PERENNIAL SPECIES: *Soil*, ordinary. *Position*, sunny borders, banks or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems, Oct. *Mulch* with manure, Mar. *Lift* & replant in fresh soil every 4 or 5 years. CULTURE OF SHRUBBY SPECIES: *Soil*, ordinary. *Position*, sunny borders or banks. *Plant*, Oct. to Feb. *Prune* into shape, Jan. to Feb. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in ordinary soil in semi-shady position outdoors, Mar. or Ap.; or in shallow boxes or pans in cold frame or greenhouse in Mar.; perennials by division of roots, Oct. to Mar.

Onopordon (Cotton Thistle, Down Thistle).—*Ord.* Compositæ. Hardy annual, biennial & perennial herbs. Orn. foliage. *Nat.* Europe (Britain), Siboria, Barbary. *Int.* (foreign species) 1640. *Ht.* 4 to 8 ft. *Species* cultivated, 1 annual; 2 biennials; 1 perennial. *Flowers*, purple; June & July. *Leaves*, large, egg-shaped, finely cut. CULTURE OF ANNUAL SPECIES: *Sow* seeds $\frac{1}{16}$ in. deep in patches in ordinary soil in sunny position outdoors, Mar. or Ap. CULTURE OF BIENNIAL SPECIES: *Sow* seeds $\frac{1}{8}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap. *Transplant* seedlings following Sept. to where required to flower. CULTURE OF PERENNIAL SPECIES: *Soil*, ordinary rich. *Position*, well-drained sunny borders. *Plant*, Oct. or Mar. singly or in groups of three. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap., transplanting seedlings to flowering position, Sept. or Oct.

Onosma (Golden Drop).—*Ord.* Boraginaceæ. Hardy biennial & perennial herbs. *Nat.* S. Europe. *Int.* 1683. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, yellow, almond-scented; May to Aug. CULTURE OF BIENNIAL SPECIES (*O echoides*): *Soil*, two parts sandy loam, one part grit or broken stones. *Position*, ledges of sunny rockery. *Plant*, May. CULTURE OF PERENNIAL SPECIES: *Soil*, two parts sandy loam, one part grit or small stones. *Position*, sunny rockery where roots can descend close to cool moist stones and shoots trail over edge. *Plant*, Mar. or Ap. *Place* a few small stones on surface of soil around plant. *Water* occasionally in dry weather. *Mulch* annually with decayed cow manure in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. in sandy loam & grit in shallow pans in shady cold frame or cool greenhouse in Mar., planting outdoors in May; cuttings of shoots inserted in sandy soil in close shady frame or under hand-light in July or Aug.

Ontario Poplar (*Populus balsamifera candicans*)—see Populus.

Onychium. *Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Himalayas, China, Japan. *Int.* date unknown. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Fronds*, 4 times divided, light and graceful, green. *Compost*, two parts peat & loam, leaf-mould and sand in equal parts. *Position*, well drained pots, beds or rockeries in shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Moist* atmosphere essential. *Temp.* for stove species, Mar. to Sept., 65° to 75°, Sept. to Mar., 55° to 65°; for greenhouse species, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in shade & temp. 70° to 80° any time; division of plants at potting time.

Open-flowered Clematis (*Clematis patens*)—see Clematis.

Opera Girls (*Mantisia saltatoria*)—see Mantisia.

Ophioglossum (Adder's Tongue Fern, Adder's Spear).—*Ord.* Filices. Hardy deciduous ferns. *Nat.* Northern hemisphere (Britain). *Ht.* 6 in. *Species* cultivated, 1; variety 1. *Fronds*, barren, egg-shaped, pale green; fertile, contracted, spike-like. Outdoor Culture: *Soil*, moist loamy. *Position*, in tufts of grass on partially shaded rockery. *Plant*, Ap. to Aug. *Lift* plants growing wild with large sod attached & plant in same. *Water* freely in dry weather. Pot Culture: *Compost*, sandy loam & leaf-mould in equal parts. *Position*, shallow pans well drained in cold shady frame. *Plant*, Ap. to Aug. *Water* freely, Mar. to Sept.; keep just moist afterwards. *Propagate* by spores gathered when ripe in July, & sown on surface of pans of above soil, covered with a sheet of glass & placed in a cool moist frame or greenhouse; division of plants in Ap.

Ophiopogon (Snake's-beard).—*Ord.* Hæmodoraceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Japan, China. *Int.* 1784. *Species* cultivated, 2; varieties 2. *Flowers*, white, lilac, violet, blue; June to Nov. *Leaves*, long, narrow, green & variegated with yellow or creamy white. Outdoor Culture: *Soil*, sandy loam. *Position*, edge to or groups in sunny borders. *Plant*, Oct. or Mar. *Lift*, divide & replant every 4 or 5 years. Pot Culture: *Compost*, two parts sandy loam, one part leaf-mould or decayed manure & one part sand. *Position*, well drained pots or in small beds in cold or heated greenhouses, conservatories, ferneries or windows. *Adapted* for sun or shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Apply* stimulants once or twice weekly, Ap. to Sept. *Propagate* by division of plants in Feb. or Mar.

Ophrys (Bee Orchis, Fly Orchis, Spider Orchis, Black Spider Orchis, Bee-flower, Looking Glass Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Europe (Britain). *Ht.* 6 to 10 ft. *Species* cultivated, about 12. *Flowers*, green, rose, brown, yellow, red, blue, purple, gold; Ap. to June. Outdoor Culture: *Soil*, sandy loam mixed with pieces of chalk or broken limestone. *Position*, dry sunny rockeries. *Plant*, Aug, to Nov. *Cover* surface of soil between plants with pieces of chalk or limestone, or mulch with layer of cocoanut-fibre refuse. Pot Culture: *Compost*, two parts sandy loam, one part pieces of broken limestone or chalk. *Position*, small well drained pots or pans in cold sunny frame or greenhouse. *Pot*, Aug. to Nov., placing tubers 1 in. below surface & pressing soil firmly. *Place* 5 tubers in 6-in. pot. *Plunge* pots to rims in cocoanut-fibre refuse or ashes during growing period. *Water* freely from time growth begins till foliage dies down, then keep nearly dry. *Repot* every 2 or 3 years. *Propagate* by division of tuberous roots in Mar. or Ap.

Opium Poppy (*Papaver somniferum*)—see Papaver.

Opuntia (Bastard Fig, Indian Fig, Prickly Pear, Cochineal Cactus, Barbary Fig).—*Ord.* Cactaceæ. Greenhouse & hardy succulent plants. *Nat.* S. Europe, Brazil, Chili, Peru, Bolivia, Mexico, Paraguay, West Indies, Colorado. *Ht.* 6 in. to 8 ft. *Int.* 1596. *Species* cultivated, about 50. *Flowers*, purple, yellow, red; May to Aug. *Stems*, fleshy, flat, bristly. *Leaves*, small, unimportant, fugacious. Culture of Greenhouse Species: *Compost*, two parts sandy loam, one part powdered brick rubbish & old mortar. *Position*, sunny airy greenhouse or window. *Pot*, Mar. or Ap. in pots filled ⅓ of depth with potsherds, & just large enough to accommodate roots. *Repot* every 3 or 4 years only. *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Nov.; none afterwards. *Apply* stimulants to healthy plants, June to Sept. *Ventilate* freely in sum. *Temp.*, Mar. to Sept., 60° to 70°.; Sept. to Mar., 50° to 55°. CULTURE OF HARDY SPECIES: *Soil*, sandy loam, freely interspersed with powdered brick or old mortar. *Position*, sunny well drained rockeries. *Plant*, Mar. or Ap. *Cover* surface of soil between plants with small pieces of stone. *Sprinkle* soot freely between plants occasionally to keep away slugs. *Apply* weak liquid manure occasionally during sum. to healthy plants only *Propagate* by seeds sown ⅛ in. deep in well drained pots or pans of sandy soil in temp. 75° in Mar. Keep soil moderately moist; cuttings of portions of stems exposed for a few days, then inserted in small well drained pots of lime & brick dust in temp. 65° to 75°, sum.; delicate species by grafting on robust kinds in Ap.

Oplismenus (Variegated Panicum).—*Ord.* Graminaceæ. Greenhouse perennial, trailing grass. Orn. foliage. *Nat.* tropical Asia. *Int.* 1867. *Species* cultivated, 1. *Flowers*, insignificant. *Stems*, small, wiry, trailing. *Leaves*, green, variegated with white & pink. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, small pots with shoots draping front of staging, or in baskets suspended from roof; sun or shade. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally in sum. *Temp.*, Mar to Sept., 60° to 75°; Sept. to Mar., 55° to 65°. *Propagate* frequently by cuttings of young shoots inserted in light sandy soil in small pots under bell-glass or hand-light in temp. 65° to 75° at any time.

Orange (*Citrus aurantium*)—see Citrus.

Orange-and-Yellow Columbine (*Aquilegia canadensis*) — see Aquilegia.

Orange Fig Marigold (*Mesembryanthemum aurantiacum*) — see Mesembryanthemum

Orange-flowered Evening-Primrose (*Œnothera bistorta Veitchi*) —see Œnothera.

Orange-flowered Hawk-weed (*Hieracium aurantiacum*) — see Hieracium.

Orange-flowered Horned-Poppy (*Glaucium fulvum*)—see Glaucium.

Orange Gourd (*Cucurbita Pepo aurantia*)—see Cucurbita.

Orange Lily (*Lilium bulbiferum aurantium*)—see Lilium.

Orange Monkey-flower (*Diplacus glutinosus*)—see Diplacus.

Orange Oil-plant (*Citrus aurantium & C. Bigaradia*)—see Citrus.

Orange Poppy (*Papaver lateritium*)—see Papaver.

Orange-root (*Hydrastis canadense*)—see Hydrastis.

Orange Stone-crop (*Sedum Kamtschaticum*)—see Sedum.

Orchis (Cuckoo Flower, Purple Orchis, Hand Orchis, Madeira Orchis, Tawny Orchis, Marsh Orchis, Adder's Grass, Military Orchis, Soldier Orchis, Purple Butterfly Orchis, Monkey Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Europe (Britain), Asia, N. Africa, N. America. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 26. *Flowers*, purple, white, brown, rose, pink, crimson, lilac, grey, yellow, some fragrant; Mar. to July. OUTDOOR CULTURE: *Soil*, calcareous loam or clay mixed with pieces of limestone for (a) *O. fragrans*, *O. fusca*, *O. funera*, *O. lactea*, *O. longicornis*, *O. militaris*, *O. pallens*, *O. papilionacea*, *O. provinciale*, *O. pauciflora*, *O. Robertiana*, *O. saccata*, *O. sambrucina*, *O. sicula*, *O. stabiana*, & *O. undulatifolia*; equal parts peat, loam & leaf-mould for (b) *O. latifolia*, *O. maculata*, *O. mascula*, *O. Morio*, & *O. spectabile*; two parts peat, one part loam for (c) *O. Mumbyana*, & *O. ustulata*; equal parts meadow loam & leaf-mould for (d) *O. foliosa*. *Position*, sunny deep well drained borders for classs *a*; well drained shady borders for class *b*; shady moist border or bog for class *c*; partially shady moist border for class *d*. *Plant*, Aug. to Nov., placing tubers 2 in. below surface. *Water* freely during growing period. *Mulch* with decayed manure annually in Mar. or Ap. *Lift* & replant when unhealthy only. *Apply* weak stimulants occasionally during sum. Pot Culture: *Compost*, equal parts good loam, sandy peat, leaf-mould, charcoal, broken chalk & silver sand. *Position*, well drained pots in cold shady frame. *Pot*, Aug. to Nov., placing tubers 1 in. below surface, & 3 to 5 in a 6-in. pot. *Make* compost firm. *Plunge* pots to rims in cinder ashes or cocoanut-fibre refuse. *Water* copiously from time growth begins till foliage fades; then keep nearly dry. *Apply* weak stimulants from Ap. till flowers fade. *Remove* flower spikes when blooms fade. *Repot* every 2 or 3 years. *Protect* from Dec. to Feb. by covering of cocoanut-fibre refuse or cinder ashes. *Propagate* by division of tubers, Aug. to Nov.

Oregon Crab Apple (*Pyrus rivularis*)—see Pyrus.

Oregon Cypress (*Cupressus Lawsoniana*)—see Cupressus.

Oregon Grape (*Berberis aquifolium*)—see Berberis.

Oregon Larch (*Larix occidentalis*)—see Larix.

Oregon Rock-Brake (*Allosorus acrostichoides*)—see Allosorus.

Oregon White Cedar (*Cupressus Lawsoniana*)—see Cupressus.

Oregon Wind-flower (*Anemone deltoidea*)—see Anemone.

Oreocome.—*Ord.* Umbelliferæ. Hardy herbaceous perennial. Flowering & orn. foliage. *Nat.* Himalayas. *Int.* (date not known). *Ht.* 4 to 5 ft. *Habit*, pyramidal. *Species* cultivated, 1. *Flowers*, white; sum. *Soil*, ordinary. *Position*, sunny borders or as specimen plant on lawn. *Plant*, Oct. to Mar. *Propagate* by seeds sown in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May or June; by division of roots in Oct. or Mar.

Oreodaphne (Balm of Heaven).—*Ord.* Lauraceæ. Hardy evergreen tree. Aromatic foliage. *Nat.* California. *Int.* 1862. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, greenish; June. *Leaves*, oblong, lance-shaped, highly perfumed. *Soil*, ordinary. *Position*, sheltered sunny borders or shrubberies S. & W. of England only. *Plant*, Oct., Nov. or Ap. *Prune*, when necessary, Ap. *Propagate* by seeds sown in sandy soil in temp. 55° to 65° in spring; by cuttings of firm young shoots inserted in sandy soil under bell-glass in cold frame or greenhouse in sum.

Oriental Arbute Tree (*Arbutus Andrachne*)—see Arbutus.

Oriental Clematis (*Clematis orientalis*)—see Clematis

Oriental Goat's-Rue (*Galega orientalis*)—see Galega.

Oriental Hellebore (*Helleborus orientalis*)—see Helleborus.

Oriental Plane-tree (*Platanus orientalis*)—see Platanus.

Oriental Poppy (*Papaver orientale*)—see Papaver.

Oriental Strawberry-tree (*Arbutus Andrachne*)—see Arbutus.

Origanum (Marjoram, Winter Sweet, Pot Marjoram, Knotted Marjoram, Organy, Dittany of Crete, Dittany of Amorgos).—*Ord.* Labiatæ. Hardy herbaceous shrubby plants & aromatic herbs. *Nat.* Europe (Britain), Levant, Candia, Grecian Archipelago. *Int.* (foreign species) 1551. *Ht.* 1 to 2 ft. *Species* cultivated, 4 herbs; 2 shrubby species. *Flowers*, pink, purple, white; May to Sept. Culture of Common Pot and Winter Marjoram: *Soil*, ordinary rich. *Position*, sunny borders. *Plant*, Feb. or Mar., 10 in. apart in rows 15 in. asunder. *Top-dress* annually in Mar. with decayed manure. *Lift*, divide & replant every 3 or 4 years. Culture of Sweet Marjoram: *Soil*, ordinary rich. *Position*, sunny borders. *Sow* seeds $\frac{1}{16}$ in. deep in light soil in shallow boxes in temp. 55° to 65° in Mar., transplanting seedlings when 2 in. high, 6 in. apart in rows 9 in. asunder, or 5 or 6 seeds in groups $\frac{1}{8}$ in. deep, 6 in. apart in rows 9 in. asunder in Ap. outdoors, thinning seedlings to one in each group when 1 to 2 in. high. *Gather* shoots of marjorams when coming into flower, dry in shade & store away for winter use. Culture of Shrubby Species: *Compost*, two parts sandy loam, one part leaf-mould

& sand. *Position*, well drained pots in sunny window or greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Suitable* for suspending in pots or baskets. *Apply* stimulant occasionally during sum. *Propagate* common pot or winter marjoram by seeds sown ⅛ in. deep in ordinary soil in sunny position outdoors in Mar. or Ap.; division of roots, Mar. or Ap.; shrubby species by cuttings of young shoots inserted in sandy soil under bell-glass in greenhouse or window in sum.

Orinoco Bamboo (*Bambusa latifolia*)—see Bambusa.

Orleans Plum-tree (*Prunus domestica* —see Prunus.

Ornamental Cloud-grass (*Agrostis nebulosa* & *A. pulchella*)—see Agrostis.

Ornithogalum (Star of Bethlehem, Onion Plant).—*Ord.* Liliaceæ. Hardy & greenhouse bulbous plants. *Nat.* Europe (Britain), Cape of Good Hope, Asia Minor. *Int.* (foreign species) 1596. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 25. *Flowers*, yellow, white; Mar. to July. OUTDOOR CULTURE: *Soil*, rich ordinary, sandy. *Position*, sunny borders, rockeries or turf. *Plant*, Aug. to Nov., placing small bulbs 3 in., & large bulbs 4 to 6 in. below surface, & 2 to 3 in. apart. *Mulch* annually in Mar. with decayed manure. *Apply* weak stimulants occasionally in sum. INDOOR CULTURE: *Compost*, two parts sandy loam, one part equal proportions leaf-mould, peat & sand. *Position*, pots in sunny greenhouse or window. *Pot*, Sept. to Feb., placing several small or one large bulb in a 5 or 6-in. pot. *Good* drainage essential. *Water* moderately when growth begins, freely when in full growth, gradually withholding when foliage turns yellow, & keeping dry till new growth begins. *Apply* stimulants occasionally whilst in full growth. *Repot* annually. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. CULTURE OF ONION PLANT (*O. longitracteatum*): *Compost*, two parts sandy loam, one part leaf-mould & well decayed manure & little sand. *Position*, sunny window or outdoors June to Sept. *Pot*, Feb. or Mar. *Good* drainage & firm potting essential. *Water* moderately, Feb. to May; freely, May to Sept.; moderately, Sept. to Nov.; keep quite dry, Nov. to Feb. *Apply* stimulants once a week, May to Sept. *Propagate* by offsets removed from old bulbs & repotted, Sept. to Feb.

Ornus (Flowering Ash) also named *Fraxinus ornus*; see Fraxinus.

Orobus (Orange-flowered Bitter Vetch, Lathyrus-like Bitter Vetch). —*Ord.* Leguminosæ. Hardy herbaceous perennials. *Nat.* Europe, Caucasus. *Int.* 1629. *Ht.* 1 to 2 ft. *Species* cultivated, about 4. *Flowers*, yellow, purple, cream, rose, white, blue, red; Mar. to June. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Mulch* annually with decayed manure. *Lift*, divide & replant every 4 or 5 years. *Cut* down flower stems, Oct. or Nov. *Propagate* by seeds sown ¼ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Orontium (Golden Club).—*Ord.* Aroidaceæ. Hardy aquatic perennial. *Nat.* N. America. *Int.* 1775. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; fragrant; June. *Soil*, boggy. *Position*, margins of shallow ponds or rivulets. *Plant*, Oct. to Mar., placing roots 6 to 12 in. below surface of water. *Propagate* by division of root stock in Oct. or Mar.

Orphine-like Sedum (*Sedum telephioides*)—see Sedum.

Osage Orange (*Maclura aurantiaca*)—see Maclura.

Osmanthus (Fragrant Olive, Holly-leaved Olive).—Hardy evergreen flowering shrubs. *Nat.* Japan, China. *Int.* 1771. *Ht.* 6 to 10 ft. *Species* cultivated, 2. *Flowers*, white, yellow; fragrant; June to Sept. *Soil*, loamy. *Position*, sheltered sunny borders, or against S. or W. walls. *Plant*, Sept., Oct. or Ap. *Prune* when necessary, Ap. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, cold sunny greenhouse, Sept. to June; outdoors, June to Sept. *Pot*, Sept. or Oct. *Water* freely, Ap. to Oct.; moderately other times. *Temp.*, Sept. to May, 40° to 50°. *Propagate* by seeds sown ⅛ in. deep in sandy peat in cold frame in spring or autn.;

by cuttings of firm young shoots inserted in sandy soil under hand-light outdoors, or in frame in sum.

Osmunda (Royal Fern, Flowering Fern, Cinnamon Fern, Dutch Fern, Herb Christopher, King Fern, Osmund Royal, Osmunda Waterman, Clayton's Flowering Fern).—*Ord.* Filices. Greenhouse & hardy evergreen & deciduous ferns. *Nat.* Europe (Britain), Japan, Himalayas, N. America. *Int.* (foreign species) 1772. *Ht.* 18 in. to 2 ft. *Species* cultivated, 5; varieties several. *Fronds*, feather-shaped, plain or crested; fertile portions contracted. Culture of Greenhouse Species: *Compost*, equal parts turfy loam & peat, little sand. *Position*, pots or beds in moist shady part of greenhouse or fernery. *Pot* or plant, Mar. or Ap. *Water* copiously, Ap. to Oct.; moderately afterwards. *Temp.*, 55° to 65°, Ap. to Sept; 45° to 55°, Sept. to Ap. Culture of Hardy Species: *Soil*, one part each loam, leaf-mould & sand, two parts peat. *Position*, bases of sheltered moist rockeries or margins of ponds in shade or partial shade. *Plant*, Ap. *Top-dress* annually in Ap. with compost of peat, leaf-mould & loam. *Remove* dead fronds in Mar. *Water* plants growing otherwise than on the margins of ponds copiously in dry weather. *Propagate* by spores sown on surface of sandy peat & leaf-mould in well drained pans, covered with sheet of glass or hand-light in shady part of cool greenhouse at any time; offsets from established plants in Ap.

Ostrich Fern (*Struthiopteris germanica*)—see Struthiopteris.

Oswego Tea-plant (*Monarda didyma*)—see Monarda.

Otago Birch (*Fagus Menziesii*)—see Fagus.

Otaheite Apple (*Spondias dulcis*)—see Spondias.

Othonna (African Rag-wort, Barbary Rag-wort).—*Ord.* Compositæ. Greenhouse & hardy perennial & trailing herbs. *Nat.* N. & S. Africa. *Int.* 1752. *Species* cultivated, 2. *Flowers*, yellow; June to Sept. Culture of Greenhouse Species (*O. crassifolia*): *Compost*, two parts sandy loam, one part leaf-mould & one part sand. *Position*, small well drained pots or baskets suspended from roof. *Pot*, Mar. or Ap. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* stimulants to healthy plants occasionally during sum. *Full* exposure to light & sun essential. Culture of Hardy Species (*O. cheirifolia*): *Soil*, ordinary sandy. *Position*, sunny well drained rockeries with shoots trailing over large stones. *Plant*, Mar. or Ap. *Water* in very dry weather. *Protect* in severe weather with light covering of litter. *Propagate* by cuttings of shoots inserted in sandy soil in cool greenhouse or frame in sum.; division of plants in Ap.

Our Lady's Thistle (*Carduus Marianus* & *Silybum Marianum*)—see Carduus & Silybum.

Ourisia.—*Ord.* Scrophulariaceæ. Hardy perennial creeping herbs. *Nat.* Andes of Chili. *Int.* 1862. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, scarlet, crimson, red, creamy white; May to Sept. *Soil*, moist loamy. *Position*, partially shaded rockery, with its roots placed close to a lump of soft porous stone. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Must* not be exposed to sunshine. *Propagate* by division of roots in Mar. or Ap.

Ouvirandra (Lattice-leaf Plant).—*Ord.* Naiadaceæ. Stove aquatic perennials. Orn. foliage. *Nat.* Madagascar. *Int.* 1855. *Species* cultivated, 2. *Flowers*, pink, white; Aug. *Leaves*, broad, oblong, skeleton-like. *Compost*, equal parts loam & leaf-mould. *Position*, in small pot immersed in tub or tank of water 12 to 18 in. deep. *Pot*, Feb. or Mar. *Temp.* of water, 65° to 75°. *Change* water occasionally. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seed sown $\frac{1}{8}$ in. deep in above compost in small pot immersed in water heated to temp. 75°, any time; division of roots, Feb. to Mar.

Oval-leaved Andromeda (*Andromeda ovalifolia*)—see Andromeda.

Oval-leaved Privet (*Ligustrum ovalifolium*)—see Ligustrum.

Oval-leaved Thorn (*Cratægus ovalifolia*)—see Cratægus.

Ovate-leaved Ash (*Fraxinus americana ovata*)—see Fraxinus.

Ovate-leaved Azalea (*Azalea ovata*)—see Azalea.

Ovate-leaved Phlox (*Phlox ovata*)—see Phlox.

Ovate-leaved Red-root (*Ceanothus ovatus*)—see Ceanothus.

Over-cup Oak (*Quercus lyrata* & *Q. macrocarpa*)—see Quercus.

Oxalis (Wood Sorrel, French Sorrel).—*Ord.* Geraniaceæ. Greenhouse & hardy annuals, herbaceous perennials, and bulbous rooted plants. *Nat.* Europe (Britain), Chili, Brazil, Cape of Good Hope, Peru, Mexico, Buenos Ayres, Bolivia, N. America. *Int.* (foreign species) 1658. *Ht.* 3 in. to 2 ft. *Species* cultivated, 4 annuals, about 30 perennials. *Flowers*, white, purple, violet, pink, lilac, rose, yellow, red, crimson; Mar. to Nov. CULTURE OF GREENHOUSE ANNUALS: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in sunny part of greenhouse. *Sow* seeds $\frac{1}{16}$ in. deep in 5-in. pots filled with above compost in Mar., place in temp. 55° to 65°, & cover with square of glass. *Water* moderately at first; freely when in full growth. *Thin* seedlings to an inch apart when large enough to handle. *Support* shoots by small stakes, or place in suspended baskets, & allow to hang down. CULTURE OF GREENHOUSE PERENNIALS: *Compost*, as above. *Position*, well drained pots in sunny greenhouse or window. *Pot* autumn-flowering kinds in Aug., winter-flowering kinds in Sept. or Oct., spring-flowering kinds, Jan. or Feb., & summer-flowering kinds, Mar. or Ap. *Put* bulbs ½ in. deep & ½ in. apart in 5-in. pots. *After* potting, place in warm part of greenhouse or window. *Water* moderately till leaves appear, then freely. *Apply* stimulants occasionally when flowers form. *Gradually* withhold water when flowers fade, & keep quite dry & cool till growth begins. *Repot* annually. CULTURE OF HARDY ANNUALS: *Soil*, ordinary. *Position*, edgings to sunny beds or borders or on rockeries. *Sow* seeds $\frac{1}{16}$ in. deep where plants are required to grow in Mar. or Ap. *Thin* seedlings to 2 or 3 in. apart when three leaves are formed. CULTURE OF HARDY PERENNIALS; *Soil*, sandy loam. *Position*, edgings to sunny borders or on rockeries. *Plant* bulbous species, Aug. to Nov., placing bulbs 2 in. below surface, & 6 to 12 in. apart; herbaceous perennials in Mar. or Ap. *Lift* bulbs of choice species in Sept. or Oct. *Store* in sand in cool frost-proof place till Mar., then plant out. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in temp. 55° to 65° in spring; division of roots or offsets at potting or planting time.

Ox-eye Bean (*Dolichos urens*)—see Dolichos.

Ox-eye Daisy (*Chrysanthemum leucanthemum*)—see Chrysanthemum.

Oxlip (*Primula elatior*)—see Primula.

Oxycocus (Common Craneberry, American Craneberry, Moss-berry).—*Ord.* Vacciniaceæ. Hardy evergreen trailing shrub. Edible fruiting. *Nat.* Britain, N. America. *Int.* (foreign species) 1760. *Species* cultivated, 2. *Flowers*, pink; Mar. to June. *Berries* globular, deep red; ripe sum. *Soil*, peat or bog. *Position*, open moist beds near ponds or streamlets. *Excavate* soil to depth of 6 in. below surrounding surface, & place 9 in. of peat or bog soil & loose stones in, & allow water to percolate to within 3 in. of surface. *Plant*, Sept. or Mar., 2 ft. apart each way. CULTURE IN SMALL PONDS: *Soil*, peat or bog. *Position*, slightly drained pots immersed in water to within 2 in. of rim. *Pot*, Sept. to Oct. *Syringe* or sprinkle foliage every evening in sum. *Propagate* by cuttings of shoots inserted in sandy moist peat under handlight in shade in sum.; layering shoots in autn.; division of plants in Sept. or Mar.

Oxytropis (Yellow-flowered Oxytrope, Pyrenean Oxytrope, Fœtid Oxytrope).—*Ord.* Leguminosæ. Hardy perennial herbs. *Nat.* Europe (Britain), Asia. *Int.* (foreign species) 1581. *Ht.* 3 to 6 in. *Species* cultivated, 10. *Flowers*, creamy-white, rose, blue, yellow, purple; June to Aug. *Soil*, dry, gravelly or sandy loam. *Position*, open sunny rockeries. *Plant*, Mar. or Ap. *Lift*, & replant only when unhealthy. *Propagate* by seeds sown ⅛ in. deep in Ap. or May where required to grow; division of roots in Mar.

Oyamel Fir (*Pinus religiosa*)—see Pinus.

Oyster Plant (*Mertensia maritima*)—see Mertensia.

Ozothamnus.—*Ord.* Compositæ. Hardy evergreen flowering shrub. *Nat.* Australia. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, ordinary. *Position*, sunny sheltered borders or against S. or W. walls, S. or W. of England only. *Plant*, Sept., Oct. or Ap. *Prune* when necessary in Ap. *Propagate* by cuttings of firm young shoots inserted in sandy soil under hand-light in shady position in sum.

Pachyphytum.—*Ord.* Crassulaceæ. Greenhouse & half-hardy evergreen succulent plants. *Nat.* Mexico. *Int.* date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, red; July. INDOOR CULTURE: *Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, well drained pots close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely, Mar. to Sept.; very freely afterwards. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept., 60° to 70°. OUTDOOR CULTURE: *Soil*, ordinary. *Position*, sunny rockeries or beds. *Plant*, June. *Lift*, pot & place in greenhouse in Sept. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar.; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept. or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Pachystoma.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Ceylon, Tropical Africa. *Int.* 1866. *Species* cultivated, 2. *Ht.* 6 in. *Flowers*, yellow, white, red, purple; June to Oct. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth commences until leaves fall off, very little other times. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of plant at potting time.

Pæonia (Pæony, Peony, Piony).—*Ord.* Ranunculaceæ. Hardy herbaceous & shruby perennials. *Nat.* China, Turkey, Siberia, Spain, Portugal, England, Crimea, Himalayas, Levant, Sicily. *Int.* 1548. *Species* cultivated, 2 shrubby, 29 herbaceous; varieties numerous. *Ht.* 2 to 5 ft. *Flowers*, white, rose, scarlet, crimson, yellow; Mar. to June. CULTURE OF TREE PÆONIES OUTDOORS: *Soil*, two parts loam, one part decomposed cow manure. *Position*, sheltered nooks & sunny shrubberies or borders. *Plant*, Sept., Oct. or Mar., in beds of above compost, 18 in. deep & 2 ft. wide, well drained. *Bury* point of union between stock & scion 3 in. below surface. *Mulch* in spring with thick layer of cow manure. *Protect* in severe weather with covering of litter. *Plants* flower three years after planting. CULTURE IN POTS: *Compost*, two parts loam, one part decayed cow manure & sand. *Pot*, Oct. or Nov. *Place* in cold frame till Mar., then remove to greenhouse. *Stand* in sunny position outdoors, June to Oct. *Water* freely, Mar. to Sept., moderately in winter. *Apply* weak manure water occasionally, Mar. to Sept. *Plants* flower once in three years only. *Temp.* for forcing, 55° to 65°. CULTURE OF HERBACEOUS SPECIES: *Soil*, moist loam well enriched with cow manure & trenched 3 ft. deep. *Position*, sunny or shady borders. *Plant*, Oct. to Ap. 4 ft. apart each way. *Top-dress* annually with well decayed manure lightly forked into surface in Oct. or Nov. *Mulch* on dry soils in Ap. *Apply* liquid or artificial manures occasionally, Ap. to Aug. *Water* copiously in dry weather. *Shade* blooms required for exhibition from sun. *Propagate* herbaceous species by seeds sown ⅛ in. deep in boxes, pots or pans of sandy soil in cold frame in Sept.; also by division of roots in Mar. or Ap. Tree species by grafting on the fleshy roots of *P. albiflora* & *P. officinalis* in Aug.; layering in Sept. or Oct.; division of roots, Mar. or Ap.

Pæony (*Pæonia officinalis*)—see Pæonia.

Pæony Poppy (*Papaver somniferum*)—see Papaver.

Paigle (*Primula veris*)—**see Primula.**

Painted Grass (*Phalaris arundinacea variegata*)—**see Phalaris.**

Palafoxia.—*Ord.* Compositæ. Half-hardy herbaceous perennials. *Nat.* Rocky Mountains, Texas, *Int.* 1821. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, rose, pink; June to Sept. INDOOR CULTURE: *Compost*, sandy loam one part, little leaf-mould & sand. *Pot*, Feb. or Mar. *Position*, light greenhouse, Sept. to June; sunny cold frame, June to Sept. *Water* moderately, Sept. to Mar.; freely afterwards. *Apply* stimulants occasionally during flowering period. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 55° to 65°. OUTDOOR CULTURE: *Treat* as half-hardy annuals. *Sow* seeds $\frac{1}{8}$ in. deep in shallow boxes or pans of light soil in temp. 55° to 65° in Mar. *Transplant* seedlings in sunny borders outdoors in June. *Propagate* by seeds sown as for outdoors; cuttings of young shoots inserted in sandy soil in Mar. or Ap.; division of plants at potting time.

Palavia.—*Ord.* Malvaceæ. Half-hardy annuals. *Nat.* Chili, Peru. *Int.* 1830. *Ht.* 6 to 9 in. *Species* cultivated, 3. *Flowers*, mauve, pink, rose; June to Sept. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Sow* seeds $\frac{1}{16}$ in. deep in pots or boxes of light sandy soil in temp. 55° to 65° in Mar. or Ap. *Transplant* seedlings outdoors in May or June.

Pale Blue Iris (*Iris pallida*)—see Iris.

Pale-flowered Butter-wort (*Pinguicula lusitanica*)—see Pinguicula.

Pale-flowered Daffodil (*Narcissus pallidus*)—see Narcissus.

Pale-flowered Flax (*Linum angustifolium*)—see Linum.

Pale-flowered Orchis (*Orchis pallens*)—see Orchis.

Paliurus (Christ's Thorn, Garland Thorn, Ram of Libya.—*Ord.* Ranunculaceæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, W. Asia, S. China. *Int.* 1596. *Ht.* 8 to 10 ft. *Species* cultivated, 2. *Flowers*, greenish yellow; June to Sept. *Branches*, spiny. *Fruit*, ornamental. *Soil*, ordinary. *Position*, shrubberies or walls. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary soil outdoors, Oct. to Nov.; cuttings of roots planted 3 in. deep & 6 in. apart, Oct. to Feb.; layering shoots, Sept. to Nov.; removing suckers with roots attached, Sept. to Dec.

Pallas's Ixia-Lily (*Ixiolirion Pallasi*)—see Ixiolirion.

Palma-Christi (*Ricinus communis*)—see Ricinus.

Palmate-leaved Ivy (*Hedera Helix palmata*)—see Hedera.

Palmate-leaved Rhubarb (*Rheum palmatum*)—see Rheum.

Palmate-leaved Saxifrage (*Saxifraga palmata*)—see Saxifraga.

Palm Lily (*Cordyline indivisa*)—see Cordyline.

Palumbina.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Mexico. *Int.* 1843. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white, spotted with red; June to Sept. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, pots, wood or earthenware baskets, rafts or blocks. *Pot*, Feb. or Mar. Fill pots or pans two thirds of their depth with potsherds. *Place* layer of moss on this, then fill remainder of space with compost to 1 in. above rim. Put plant on this, cover roots with compost & layer of moss, & secure firmly with copper wire. *Baskets*: Line interior with moss, then fill with compost & place plant on top, securing it firmly with copper wire. *Blocks*: Place roots next wood, cover with peat & sphagnum moss, & secure firmly with copper wire. *Water* plants on blocks twice daily in sum., once a day other times; those in pots & baskets once a day, Ap. to Sept., twice a week, Sept. to Nov. & Feb. to Ap., once a week at other times. *Syringe* lightly daily in sum. *Moist* atmosphere highly essential. *Shade* from bright sunshine only. *Ventilate* freely in sum. *Temp.*, Nov. to Ap., 60° to 70°; Ap. to Nov., 70° to 85°. *Growing period*, Mar. to Sept.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Pampas Grass (*Gynerium argenteum*)—see Gynerium.

Panax (Ginseng Plant, Victorian Elderberry Ash.—*Ord.* Araliaceæ. Stove & greenhouse evergreen shrubs & hardy herbaceous perennial. Orn. foliage. *Nat.* India, South Sea Islands, Queensland, Japan, N. America. *Int.* 1740. *Ht.* 6 in. to 10 ft. *Species* cultivated, 10 stove, 2 greenhouse, 1 hardy. *Leaves*, coarsely & finely divided, green & variegated with white. CULTURE OF STOVE & GREENHOUSE SPECIES: *Compost*, equal parts loam, peaty leaf-mould, charcoal & sand. *Pot*, Feb. to Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, stove, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°; greenhouse, Mar. to Sept., 55° to 60°: Sept. to Mar., 45° to 55°. CULTURE OF HARDY SPECIES: *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. or Mar. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap. Hardy species by division.

Pancratium (Mediterranean Lily, Sea Daffodil).—*Ord.* Amaryllidaceæ. Stove, greenhouse & hardy, evergreen & deciduous bulbous plants, *Nat.* West Indies, Canary Islands, S. Europe. *Int.* 1596. *Ht.* 1 to 2 ft. *Species* cultivated, 6 stove, 6 greenhouse, 2 hardy. *Flowers*, white; fragrant. Ap. to Oct. CULTURE OF STOVE & GREENHOUSE SPECIES: *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly, Ap. to Sept.; moderately, Sept. to Dec.; keep quite dry, Dec. to Mar. *Apply* liquid manure once or twice a week, May to Sept. *Temp.* for stove species, 70° to 80°, Mar. to Sept.; 55° to 65°, Sept. to Mar.; greenhouse species, 55° to 65°, Ap. to Sept.; 45° to 50°, Sept. to Ap. CULTURE OF HARDY SPECIES: *Soil*, three parts sandy loam, one part leaf-mould. *Position*, warm exposed well drained borders. *Plant* bulbs 3 to 4 in. deep, Oct., Nov. or Mar. *Protect* in winter by layer of decayed manure, cocoanut-fibre refuse or cinder ashes. *Mulch* after growth commences with decayed cow manure. *Apply* weak stimulants occasionally during sum. *Lift*, divide & transplant every three years. *Propagate* greenhouse & stove species by offsets removed from old bulbs in Mar.; hardy kinds similarly when replanting.

Pandang Oil-plant (*Pandanus odoratissimus*)—see Pandanus.

Pandanus (Javanese Screw Pine, Chandelier Tree, Fragrant Screw Pine, Moreton Bay Bread Fruit Tree).—*Ord.* Pandanaceæ. Stove evergreen shrubs. Orn. foliage. *Nat.* East Indies, Singapore, Madagascar, Mauritius. *Int.* 1771. *Ht.* 2 to 10 ft. *Species* cultivated, about 18; varieties several. *Leaves*, narrow, strap-like, serrated, green or variegated with white. *Compost*, two parts sandy loam, one part equal proportions leaf-mould, charcoal & sand. *Pot*, Jan. to Ap. *Position*, sunny moist part of stove. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* twice daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by offsets, Feb. to Ap.

Panicled Clematis (*Clematis paniculata*)—see Clematis.

Panicled-flowered Dog-wood (*Cornus paniculata*)—see Cornus.

Panicled Monk's-hood (*Aconitum paniculatum*)—see Aconitum.

Panicled Phlox (*Phlox paniculata*)—see Phlox.

Panicled White Alder (*Clethra paniculata*)—see Clethra.

Panicum (Panick Grass, Old Witch Grass, Millet Grass, Twiggy Panick Grass).—*Ord.* Gramminaceæ. Stove, hardy & half-hardy annual & perennial grasses. *Nat.* West Indies, Europe, Asia, N. America, Brazil. *Int.* 1758. *Ht.* 18 in. to 30 ft. *Species* cultivated, 1 stove perennial, 2 hardy annuals, 2 hardy perennials. *Inflorescence*, light, feathery, graceful. *Leaves*, green or variegated with white. CULTURE OF STOVE SPECIES: *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Syringe* daily, Mar. to Sept. *Water* copiously, Mar. to Sept,; moderately afterwards. *Temp.*, Mar. to Sept., 60° to 75°; Sept. to Mar., 55° to 65°. CULTURE OF HARDY ANNUALS: *Soil*, ordinary, *Position*, sunny borders. *Sow* seeds ⅛ in. deep in patches where required to flower in Mar. or Ap. *Thin* seedlings when 1 in. high to 2 in. apart. *Gather* inflorescence in July or Aug. & dry for winter use. CULTURE OF HARDY PERENNIALS: *Soil*, good ordinary. *Position*, sunny borders. *Plant*, Oct. or Ap. *Lift*, divide & replant every 2 or 3 years. *Propagate* stove species by division; hardy kinds by seeds sown outdoors in Ap. or May, & by division of roots in Oct. or Mar.

Pansy (*Viola tricolor*)—see Viola.

Panther Lily (*Lilium pardalinum*)—see Lilium.

Papaver (Poppy, Alpine Poppy, Golden Poppy, Yellow Arctic Poppy, Oriental Poppy, Pæony Poppy, White Poppy, Opium Poppy, Iceland Poppy, Shirley Poppy).—*Ord.* Papaveraceæ. Hardy annual & perennial herbs. *Nat.* Caucasus, India, Australia, Africa, Europe (England). *Int.* (foreign species) 1714. *Ht.* 1 to 4 ft. *Species* cultivated, 15 perennials, 19 annuals. *Flowers*, single & double, white, yellow, orange, red, scarlet, crimson, purple, black; May to Sept. CULTURE OF ANNUAL SPECIES: *Soil*, good ordinary. *Position*, sunny beds or borders. *Sow* seeds 1/16 in. deep in patches where required to grow; in Ap. for flowering in sum.; Sept. for flowering in spring. *Thin* seedlings to 1 or 2 in. apart when ½ in. high. CULTURE OF PERENNIAL SPECIES: *Soil*, deep sandy loam. *Position*, sunny borders for tall species as *P. orientalis*; rockeries for dwarf species as *P. alpinum* & *P. nudicaule*. *Plant*, Oct., Mar. or Ap. *Top-dress* with decayed manure in Mar. or Ap. *P. nudicaule* best raised from seeds annually. *Propagate* annual species by seeds as above; perennial species by seeds sown in sunny place outdoors in Mar. or Ap.; division of roots in Mar. or Ap.

Paper Mulberry (*Broussonetia papyrifera*)—see Broussonetia.

Paper Rush (*Papyrus antiquorum*)—see Papyrus.

Paper-seed (*Cyperus papyrus*)—see Cyperus.

Paper-white Daffodil (*Narcissus papyraceus*)—see Narcissus.

Paphinia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Trinidad, Brazil, Columbia. *Int.* 1843. *Ht.* 9 to 12 in. *Species* cultivated, 4. *Flowers*, white, purple, red, yellow; Nov. to June. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs immediately after flowering.

Papyrus (Paper Rush, Paper Reed).—*Ord.* Cyperaceæ. Stove ornamental sedge. *Nat.* Egypt. *Int.* 1803. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Foliage* & inflorescence in umbels on tall stems; dark green. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, in pots immersed in tubs or tanks of water in shade. *Syringe* twice daily, Mar. to Oct.; once daily afterwards. *Repot* annually in Feb. or Mar. *Propagate* by division at potting time.

Paradise Apple (*Pyrus malus præcox*)—see Pyrus.

Parchment-bark (*Pittosporum crassifolium*)—see Pittosporum.

Pardanthus (Chinese Blackberry Lily, Leopard-flower).—*Ord.* Iridaceæ. Hardy tuberous-rooted perennials. *Nat.* China, Japan. *Int.* 1823. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, orange spotted with purple; June. OUTDOOR CULTURE: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing tubers 4 in. deep & 2 in. apart. *Lift* & replant tubers annually. *Mulch* surface of bed in Mar. with cow manure. POT CULTURE; *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five tubers 3 in. deep, in each pot in Nov., & cover with coconut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time growth begins until flowers fade, then gradually cease, keeping dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for tubers.

Paris (Four-leaved Grass, Herb Paris, One-berry, True-love).—*Ord.* Liliaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), Asia. *Int.* (foreign species) 1826. *Ht.* 6 in. to 2 ft. *Species* cultivated, 2. *Flowers*, green, yellow; Mar. to June. *Fruit*, scarlet or bluish black, borne in autn. *Soil*, sandy loam. *Position*, shady borders or margins of shrubberies. *Plant*, Oct. to Mar. *Propagate* by seeds sown in moist position outdoors in autn.; division of roots, Oct. or Mar.

Paris Daisy (*Chrysanthemum frutescens*)—see Chrysanthemum.

Parkinson's Chequered Meadow-Saffron (*Colchicum Parkinsoni* —see Colchicum.

Park-leaves (*Hypericum Androsænum*)—see Hypericum.

Parlour Ivy (*Mikania scandens*)—see Mikania.

Parlour Palm (*Aspidistra lurida*)—see Aspidistra.

Parnassia (Grass of Parnassus).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), Himalayas, N. America. *Int.* (foreign species) 1802. *Ht.* 6 in. *Species* cultivated, 6. *Flowers*, white, green, purple; May to Sept. *Soil*, peaty or boggy. *Position*, moist shady borders, bogs or margins of streams or ponds. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown in moist boggy peat in shady position outdoors in autn. or spring; division of roots in Mar. or Ap.

Parochetus (Blue-flowered Shamrock, Shamrock Pea).—*Ord.* Leguminosæ. Hardy trailing herbaceous perennial. *Nat.* Himalayas. *Int.* 1820. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, blue; Mar. to June. *Soil*, ordinary. *Position*, margins of sunny borders or on rockeries. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in cold frame in Mar.; division of plants in Mar.

Paronychia (Nail-wort, Whitlow-wort, Whitlow-grass).—*Ord.* Illecebraceæ. Dwarf-creeping perennial herbs. *Nat.* S. Europe. *Int.* 1879. *Ht.* 1 in. *Species* cultivated, 2. *Flowers*, white, surrounded by silvery bracts; sum. *Soil*, ordinary. *Position*, dry sunny banks or rockeries or for carpeting surfaces of beds. *Plant*, Mar. to June. *Propagate* by seeds sown in sunny spot outdoors in Mar. or Ap.; division of plants, Oct. or Mar.

Paroo Lily (*Dianella cærulea*)—see Dianella.

Parottia (Persian Iron-wood).—*Ord.* Hamamelidaceæ. Hardy deciduous trees & shrubs. Orn. foliage. *Nat.* Cashmir, Persia. *Int.* 1848. *Ht.* 6 to 10 feet. *Species* cultivated, 2. *Leaves*, ovate, green in sum., rich crimson with shades of orange & yellow in autn. *Soil*, good ordinary. *Position*, warm sheltered shrubberies, S. of England; against S. walls in colder districts. *Plant*, Oct. to Feb. *Prune* shoots of trees grown against walls to within an inch of base annually in Feb. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of sandy soil in cold frame in autn. or spring; layering shoots in autn.

Parrot-beak-plant (*Clianthus puniceus*)—see Clianthus.

Parrot Tulip (*Tulipa Gesneriana laciniata*)—see Tulipa.

Parrot's-bill of New Zealand (*Clianthus puniceus*)—see Clianthus

Parrot's Plantain (*Heliconia psittacorum*)—see Heliconia.

Parry's Lily (*Lilium Parryi*)—see Lilium.

Parsley (*Petroselinum sativum*)—see Petroselinum.

Parsley Fern (*Allosorus crispus*)—see Allosorus.

Parsley-leaved Elder (*Sambucus nigra laciniata*)—see Sambucus

Parsley-leaved Thorn (*Cratægus apiifolia*)—see Cratægus.

Parsnip (*Peucedanum sativum*)—see Peucedanum.

Parti-coloured Crocus (*Crocus versicolor*)—see Crocus.

Parti-coloured-flowered Sun-rose (*Helianthemum versicolor*)—see Helianthemum.

Partridge-berry (*Gaultheria procumbens*)—see Gaultheria.

Partridge-breast Aloe (*Aloe variegata*)—see Aloe.

Pascalia.—*Ord.* Compositæ. Hardy perennial herb. *Nat.* S. America. *Int.* 1799. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; July. *Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.

Pasque-flower (*Anemone pulsatilla*)—see Anemone.

Passiflora (Passion Flower).—*Ord.* Passifloraceæ. Greenhouse & hardy climbing plants. *Nat.* Brazil. Peru, New Grenada, Australia, Mexico, W. Indies. *Int.* 1699. *Ht.* 10 to 30 ft. *Species* cultivated, about 100 stove; 2 hardy. *Flowers*, red, white, blue, scarlet, yellow, purple, crimson; nearly all the year round. CULTURE OF STOVE SPECIES: *Compost*, equal parts fibrous loam & peat, one fourth silver sand. *Pot*, Feb. or Mar. *Prune*, Feb., thinning out weak shoots & shortening strong ones one third. *Position*, well drained tubs or pots, or beds 18 in. deep & 2 ft. wide; shoots trained up rafters or walls; sunny. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Ap. to Sept. *Apply* stimulants occasionally to healthy plants when in flower only. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. CULTURE OF HARDY SPECIES: *Soil*, good ordinary, mixed with a little decayed manure. *Position*, south or south west walls. *Plant*, Oct. or Mar. *Prune* in Feb, shortening small shoots to 3 & 6 in., & strong ones to 2 & 3 ft. *Water* freely in dry weather. *Apply* liquid manure to healthy plants once a month in sum. *Propagate* stove species by seeds sown ¼ in. deep in pots of sandy soil in temp. 65° to 75° at any time; by cuttings of young shoots 4 to 6 in. long inserted in sandy soil under bell-glass in temp. 65°, Ap. to Sept. Hardy species, by similar cuttings inserted in cold frame in sum.; layering young shoots in sum.

Passion-flower (*Passiflora cærulea*)—see Passiflora.

Patience Dock (*Polygonum Bistorta*)—see Polygonum.

Patrinia.—*Ord.* Valerianaceæ. Hardy perennial herbs. *Nat.* Siberia. *Int.* 1751. *Ht.* 9 to 12 in. *Species* cultivated, 3. *Flowers*, yellow; fragrant; May to July. *Soil*, ordinary light rich. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep, in fine soil in sunny position outdoors in Mar. or Ap.

Patton's Californian Fir (*Abies Pattoni*)—see Abies.

Paullinia.—*Ord.* Sapindaceæ. Stove evergreen twining plants. *Nat.* South Sea Islands, Rio Janeiro. *Ht.* 5 to 10 ft. *Int.* 1816. *Species* cultivated, 2. *Flowers*, white, pale pink; Oct. *Leaves*, finely divided green, downy. *Compost*, two parts loam, two parts leaf-mould & sand. *Position*, well drained pots with shoots trained round wire trellis or up rafters of roof. *Pot*, Mar. *Prune* slightly in Jan. & Feb. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* twice daily, Mar. to Sept. *Propagate* by cuttings of firm shoots, 2 to 3 in. long inserted in small pots of sandy soil under bell-glass in temp. 75° to 85° any time.

Pau Wind-flower (*Anemone fulgens*)—see Anemone.

Paulownia.—*Ord.* Scrophulariaceæ. Hardy deciduous tree. Orn. foliage & flowering. *Nat.* Japan. *Int.* 1840. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, violet; June. *Leaves*, large, soft & downy. *Soil*, sandy loam. *Position*, sunny sheltered shrubberies or lawns. *Plant*, Oct. to Feb. *Prune* shoots annually in Feb. to within two or three inches of their base if only foliage is desired; leave unpruned for flowering. *Propagate* by seeds sown ⅛ in. deep in sandy loam in cold frame in spring or autn.; by cuttings of firm young shoots inserted in sandy soil in frame in sum.

Pavetta (Wild Jasmine) —*Ord.* Rubiaceæ. Stove evergreen shrubs.

Orn. foliage. *Nat.* Isle of Bourbon. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Leaves*, oblong lance-shaped, dark olive green, spotted with white, salmon red mid-ribs. *Compost*, two parts good fibrous peat, one part fibrous loam & silver sand. *Position*, shady part of stove whilst growing, light situation when at rest. *Pot*, Feb. or Mar.; good drainage indispensable. *Prune* into shape in Feb. *Water* freely from Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Aug. *Apply* liquid manure once or twice a week to healthy plants in flower. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted singly in small pots in sandy peat under bell-glass in temp. 75° to 85°, Mar. to May.

Pavia (Buck-eye).—*Ord.* Sapindaceæ. Hardy deciduous trees & shrubs. Flowering. *Nat.* California, N. America. *Int.* 1711. *Ht.* 3 to 20 ft. *Species* cultivated, 4. *Flowers*, white, rose, yellow, red; fragrant; May to June. *Soil*, ordinary, deep. *Position*, shrubberies, woods, lawns or parks. *Plant*, Oct. to Mar. *Prune* straggling shoots in Nov. *Propagate* by seeds sown 3 in. deep in open border, Mar.; layering, Feb.; grafting, Mar.; budding, July.

Pavonia.—*Ord.* Malvaceæ. Stove evergreen plants. *Nat.* New Grenada, Brazil. *Int.* 1778. *Ht.* 2 to 4 ft. *Species* cultivated, 3. *Flowers*, scarlet, yellow & purple; July to Sept. *Compost*, two parts loam, one part peat & sand. *Pot*, Mar. *Position*, pots in shade. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings inserted in fine sand under bell-glass in temp. 75° at any time.

Pea (*Pisum sativum*)—see Pisum.

Pea-fruited Japan Cypress (*Retinospora pisifera*)—see Retinospora.

Pea-tree (*Sesbania grandiflora*)—see Sesbania.

Peach (*Persica vulgaris*)—see Persica.

Peach Bells (*Campanula persicifolia*)—see Campanula.

Peach-coloured Trumpet-flower (*Solandra grandiflora*) — see Solandra.

Peach-leaved Bell-flower (*Campanula persicifolia*)—see Campanula.

Peach-leaved Cherry (*Cerasus persicifolia*)—see Cerasus.

Peacock Anemone (*Anemone pavonia*)—see Anemone.

Peacock-flower (*Poinciana pulcherrima*)—see Poinciana.

Peacock Iris (*Iris pavonia*)—see Iris.

Peacock Treasure-flower (*Gazania pavonia*)—see Gazania.

Pear (*Pyrus communis sativa*)—see Pyrus.

Pear-leaved Thorn (*Cratægus pyrifolia*)—see Cratægus.

Pearl Aloe (*Haworthia margaritifera*)—see Haworthia.

Pearl-bush (*Exochorda grandiflora*)—see Exochorda.

Pearl Cud-weed (*Antennaria margaritacea*)—see Antennaria.

Pearl-grass (*Briza maxima*)—see Briza.

Pearl-plant (*Lithospermum officinale*)—see Lithospermum.

Pearly Everlasting (*Antennaria margaritacea*)—see Antennaria.

Pectis.—*Ord.* Compositæ. Half-hardy annual. *Nat.* N. W. America. *Int.* 1865. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; fragrant; June to Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Sow* seeds $\frac{1}{16}$ in. deep in light sandy soil in temp. 55° to 65° Mar., transplanting seedlings 3 in. apart in groups or lines outdoors in May or June.

Pelargonium (Fancy, Show, Zonal, Ivy, & Scented Pelargonium, Stork's Bill "Geranium").—*Ord.* Geraniaceæ. Greenhouse & hardy annual, biennial, herbaceous, evergreen, shrubby, & tuberous-rooted perennials. Flowering & orn. foliage. *Nat.* Cape of Good Hope, Canary Islands, Taurus, Australia. *Int.* first species (*P. triste*) 1632; P. zonale, 1710; P. inquinans, 1714; P. grandiflorum, 1794; P. peltatum, 1701. *Ht.* 3 in. to 10 ft. *Species* cultivated, 2 annuals, 4 biennials, 23 greenhouse herbaceous, 1 hardy herbaceous, 80 tuberous-rooted, 151 evergreen shrubs; varieties innumerable. *Flowers*, various colours all the year round. PARENTS OF CULTIVATED TYPES: P. zonale & P. inquinans (zonale, bicolor & tricolor-leaved); P. grandiflorum & P. cucullatum (show & fancy); P. peltatum, P. hederæfolium, & P. lateripes (ivy-leaved); P. quercifolium, P. filicifolium, P. glutinosum, P. capitatum, P. crispum, & P. Radula (scented-leaved); P. triste, etc. (tuberous-rooted). CLASSIFICATION OF TYPES: (1) ZONAL.—Leaves roundish, cordate, lobed, pubescent, green, with or without horse-shoe mark near margin of upper surface. *Sub-classes*: Bicolor.—Leaves green, edged with white, or white, edged with green. Tricolor.—Leaves green, white, yellow, & crimson. Bronze.—Yellow with bronze zone. (2) SHOW: Leaves palmately lobed, toothed margins, wrinkled, green; flowers large, with smooth or wrinkled edges. *Sub class*: Regal.—Flowers semi-double. (3) FANCY: Leaves similar to show kinds; flowers smaller, spotted or blotched. (4) IVY LEAVED: Leaves ivy-shaped, fleshy, five angled, green or variegated; stems trailing or climbing. (5) SCENTED-LEAVED: Leaves, variously shaped; scented. CULTURE.—ANNUAL SPECIES: *Compost*, equal parts loam & leaf mould, little sand. *Sow* seeds $\frac{1}{8}$ in. deep in shallow boxes or pans in temp. 60° to 70° in Mar. *Transplant* seedlings singly in 2-in. pots. *Transfer* to 4-in. pots in May. *Water* moderately. *Temp.*, Ap. to Sept., 50° to 60°. BIENNIALS: *Sow* seeds & treat as above. *Temp.*, Sept. to Mar., 45° to 55°. *Water* moderately in winter; freely afterwards. GREENHOUSE HERBACEOUS: *Compost*, two parts sandy loam, half a part well decayed manure, half a part leaf-mould, little sand. *Position*, pots in sunny light greenhouse. *Pot*, Mar. *Repot* annually. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants in sum. only. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. HARDY HERBACEOUS: (P. Endlicherianum).—*Soil*, sandy loam. *Position*, sunny well drained rockery or border. *Plant*, Mar. or Ap. *Protect* in winter with covering of cocoanut-fibre refuse. GREENHOUSE TUBEROUS-ROOTED: *Compost*, same as for greenhouse herbaceous kinds. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Repot* annually. *Water* freely, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. GREENHOUSE EVERGREENS: *Compost*, similar to greenhouse herbaceous. *Position*, light sunny greenhouse. *Pot*, Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Apply* stimulants in sum. only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. ZONALS FOR SUMMER-FLOWERING: *Insert* cuttings in Aug. or Sept. singly in 2-in. pots. *Place* in temp. 45° till Mar., then transfer to 4 in. size. *Nip* off point of main shoot in Feb. or Mar., also of side shoots when 2 or 3 in. long. *Transfer* to 6-in. pots when roots reach side of 5-in. sizes. *Pot* firmly. *Compost* for first potting, two parts yellow fibrous loam, half a part well decayed manure, half a part leaf-mould, one part coarse sand & tablespoonful of superphosphate, or a quarter of a pint of bone-meal to each bushel; for final potting, same proportion of loam, manure, & leaf mould, quarter part each of coarse sand & charcoal, tablespoonful of superphosphate or pint of bone-meal to each bushel. *Remove* flower buds until fortnight after final potting. *Water* moderately first ten days after potting; freely afterwards. *Apply* stimulants month after final potting. *Shade* from sun when in bloom. *Temp.*, Aug. to Mar., 40° to 50°; Mar. to May, 55° to 60°; ordinary cool greenhouse or window afterwards. *After flowering*, shorten shoots & keep soil just moist, repotting following spring to make large plants. ZONALS FOR WINTER FLOWERING: Insert cuttings singly in 2-in. pots in Feb. or Mar. in temp. 55° to 65°. *Transfer* when well rooted into 4-in. & again into 6-in. in June. *Nip* off point of main shoot in Ap., & of side shoots in May or June. *Pinch* off flower buds appearing before Sept. *Stand* in sunny cold frame, or plunge to rim of pots in cinder ashes in open position, June to Sept. *Remove* into greenhouse in Sept. *Water* freely outdoors, moderately indoors. *Apply* stimulants twice a week, June to Sept.; once a week afterwards. *Compost*, as above. *Temp.*, Sept. to Mar., 50° to 55°. *Dry* atmosphere essential to prevent damping of blooms. *After flowering*, shorten shoots, keep moderately moist, & repot. ZONALS, BICOLORS, & TRICOLORS FOR BEDDING: Insert cuttings in Aug. or Sept., several in 5-in. pots, or 2 in. apart in shallow boxes. Keep thus until Feb., then transfer singly to 3-in. pots, place in temp. 55° until Ap., then remove to cold frame, & plant outdoors in June. *Lift* plants in Sept., placing bicolors, tricolors, & bronzes singly in 3-in. pots; zonals singly in similar pots, three in a 4 or 5-in. pot, or a few inches apart in shallow boxes, & storing in temp., 40° to 45°, in greenhouse, room or cellar. SPECIMEN ZONALS: Insert cuttings in Aug. or Sept., grow in 2-in. pots until Mar., then transfer to 4-in sizes. *Compost* as above. *Nip* off point of main shoot in Mar., also of side shoots when 3 in. long. *Tie* these firmly to wire fixed to rim of pot, & allow young shoots to form in centre. *Remove* all blooms first year. *Transfer* to 6-in. pot in May or June. *Grow* in greenhouse near glass. *Water* freely during sum.; moderately in winter. *Apply* stimulants, June to Sept. *Shorten* shoots two thirds in Jan. When new shoots form repot. *Nip* off points of shoots where necessary to ensure good shape. *Compost* as above. STIMULANTS FOR ZONALS: *Liquid* horse, cow, sheep or deer dung, diluted with two-thirds water, & applied twice a week in sum., once a week in winter; *nitrate of soda*, $\frac{1}{4}$ oz. to a gallon of water, applied once a week, when soil is moist only, for three or four weeks, then cease; *sulphate of ammonia*, same as nitrate of soda; *soot-water* (one peck each of sheep & cow dung, & $\frac{1}{2}$ peck of soot to 36 gall. of water), diluted with half water, applied twice a week; *Albert's manure*, $\frac{1}{2}$ oz. to gall. of water once a week; *Clay's fertilizer*, $\frac{1}{2}$ oz. to gall. of water applied once a week, or $\frac{1}{4}$ oz. sprinkled on surface of soil in 6-in. pot once a month. SHOW AND FANCY: Insert cuttings of firm shoots, 2 to 3 in. long, in July or Aug. singly in 2-in. pots in cold frame or greenhouse. Sandy soil. When rooted, transfer to 4-in. pots, & place on a shelf close to glass in temp. 45° to 50°. *Nip* off point of main shoot just before potting. When new shoots are 3 in. long, nip off points. *Transfer* to 5-in. pots in Jan. Keep near glass. When flowers show apply liquid manure twice a week. *Water* moderately until Mar., then freely until June, when give less. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to May, 50° to 55°. *After flowering*, stand in sunny place outdoors. *Prune* shoots to within 1 in. of base in July. When new shoots form, turn plants out of pots, remove loose soil, & repot in 4 or 5-in. pots. *Replace* in greenhouse in Sept. *Transfer* to 6 or 8-in. pots in Dec. or Jan. *Compost*, three parts good fibrous loam, one part decayed horse or cow dung, half a part coarse sand, & a tablespoonful of superphosphate to each bushel. Good drainage & firm potting essential. Stimulants as above. IVY-LEAVED: Insert cuttings singly in 2-in. pots, or three or four in a 4-in. pot in Aug. or Sept. Grow in greenhouse near glass until Feb. or Mar., then transfer to 4-in. pots. *Nip* off points of main shoots in Feb. or Mar. *Repot* in 5-in. pots in Ap. or May. *Train* shoots to stakes or place plants in suspended baskets, & let them droop over sides. *Water* moderately, Sept. to Ap.; freely, Ap. to Sept. *Apply* stimulants, May to Sept. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 50° to 60°. *Plant* outdoors, June. *Prune* old plants, Feb or Mar. *Compost* & stimulants same as for zonals. SCENTED-LEAVED: *Compost:* two parts loam, half a part each of decayed manure & leaf-mould, quarter part sand. *Pot*, & treat as advised for sum.-flowering zonals. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in a well drained pot or pan, filled with light sandy soil, in temp. 55° to 65°, Feb. to Ap.; cuttings inserted as above directed in each section; grafting on common kinds in close frame or under bell-glass in temp. 55° to 65° in spring; tuberous-rooted kinds by division in spring.

Pedicularis (Louse-wort).—*Ord.* Scrophulariaceæ. Hardy & half-hardy perennial herbs. *Nat.* Britain, Switzerland, Austria, Italy, Siberia.

Turkestan, Nepaul, N. America. *Int.* (foreign species) 1775. *Ht.* 6 to 12 in. *Species* cultivated, 18 hardy, 15 half-hardy. *Flowers*, red, yellow, pink. purple, crimson, scarlet, rose; May to Aug. CULTURE OF HARDY SPECIES: *Soil*, moist peaty. *Position*, open moist borders or rockeries. *Plant*, Oct. or Mar. CULTURE OF HALF-HARDY SPECIES: *Soil*, two parts peat, one of leaf-mould & sand. *Position*, well drained pots or pans in cold frames, Oct. to May; open moist borders outdoors, May to Oct. *Water* occasionally in cold frames, freely outdoors in dry weather. *Propagate* hardy species by seeds sown ⅛ in. deep in patches outdoors in Ap. where plants are required to flower, afterwards thinning seedlings to 3 or 4 inches apart; half-hardy species by seeds sown $\frac{1}{16}$ in. deep in well drained pans or shallow boxes, filled with sandy peat, & placed in temp. 65° in Mar., transplanting seedlings outdoors, May or June. *All* species of this genus are short lived, hence a succession of young plants must be maintained.

Pedilanthus (Slipper Spurge, Jew-bush). — *Ord.* Euphorbiaceæ. Stove succulent flowering shrub. *Nat.* W. Indies. *Int.* 1874. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, red, purple; June to Aug. *Compost*, two parts sandy loam, one part brick rubbish, half a part decayed cow manure & silver sand. *Pot*, Mar. or Ap. *Position*, dry sunny part of stove. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 60° to 80°. *Water* once in three weeks from Sept. to Mar.; once a week afterwards. No syringing or stimulants required. *Propagate* by cuttings of shoots, 2 to 3 in. long, exposed to sun for one or two days, then inserted singly in sand in 2-in. pots, & placed on a shelf near the glass, any time during sum.

Pee-put-tree (*Ficus religiosa*)—see Ficus.

Peerless Daffodil (*Narcissus incomparabilis*)—see Narcissus.

Peg-wood (*Cornus sanguinea* & *Euonymus europæus*)—see Cornus & Euonymus.

Pelecyphora (Hatchet Cactus).—*Ord.* Cactaceæ. Greenhouse succulent perennial. *Nat.* Mexico. *Int.* 1843. *Ht.* 4 in. *Species* cultivated, 1; variety 1. *Flowers*, white, rose, purple; June to Aug. *Compost*, equal parts sandy loam, rough old mortar & pounded bricks. *Position*, sunny airy greenhouse or windows. *Pot*, Mar. or Ap. in well drained pots just large enough to accommodate roots. *Repot* every third or fourth year only. *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Dec.; none afterwards. *Syringe* on evenings of warm days, June to Sept. *Apply* soot water to healthy plants, June to Sept. *Ventilate* freely in sum. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown ⅛ in. deep in well drained pans or pots of sandy soil in temp. 75° in Mar., keeping soil moderately moist; by cuttings of the tops of the plants inserted in small pots of sandy gritty compost in spring.

Pelexia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Tropical America. *Int.* 1823. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, green, white; Sept. to June. *Compost*, two parts fibrous peat, one part loam & sand. *Position*, well drained pots or shallow pans in shady part of stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept.; moderately other times. *Temp.*, 65° to 75°, Mar. to Sept.; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of shoots removed with roots attached, inserted singly in small pots of peaty compost under bell-glass in temp. 45° to 55° in spring.

Pelican-flower (*Aristolochia grandiflora*)—see Aristolochia.

Pellæa (Cliff Brake-Fern).—*Ord.* Filices. Greenhouse evergreen & deciduous ferns. *Nat.* Tropical & N. America, S. Africa. *Int.* 1770. *Ht.* 3 to 12 in. *Species* cultivated, 15. *Fronds*, hand-shaped or once or twice divided; green. *Compost*, equal parts loam, leaf-mould, peat & sand, with a little charcoal & sandstone. *Pot* or plant, Mar. *Position*, well drained pots in shady part of greenhouse or in beds or rockeries in shade. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 60° to 65°. *P. atropurpurea* & *P. gracilis* are sufficiently hardy to grow outdoors in sheltered rockeries if protected with litter or hand-light in winter. *Propagate* by spores sown on surface of sandy peat in shallow pan in temp. 70° to 80°, any time; division of plants in Feb. to Ap.

Pellionia.—*Ord.* Urticaceæ. Stove creeping herb. Orn. foliage. *Nat.* Cochin China. *Int.* 1880. *Ht.* 2 ft. *Species* cultivated, 2; variety 1. *Leaves,* roundish, oval or heart-shaped; olive-green with violet & white markings. *Compost,* two parts sandy loam, one part leaf-mould & sand. *Pot* or plant, Mar. or Ap. *Position,* shallow pans or on surface of beds or rockeries or under staging. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.,* Sept. to Ap., 55° to 65°; Ap. to Sept., 65° to 75°. *Propagate* by cuttings of creeping shoots inserted in sandy soil in small pots under bell-glass in temp. 75° to 85° in spring; division of plants in Mar. or Ap.

Pellitory (*Pyrethrum Parthenium*)—see Pyrethrum.

Peltandra (Arrow-Arum).—*Ord.* Aroideæ. Hardy perennial herb. Orn. foliage. *Nat.* N. E. America. *Int.* 1759. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Leaves,* spear head shaped, broad, deep green. *Soil,* rich, boggy or muddy. *Position,* moist bog or shallow pond. *Plant,* Mar. or Ap., enclosing roots & small quantity of soil in piece of canvas or sacking & drop the whole into the water. *Propagate* by inserting portions of creeping stems in muddy soil in ponds where required to grow.

Peltaria.—*Ord.* Cruciferæ. Hardy herbaceous perennial herb. *Nat.* E. Europe. *Int.* 1601. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers,* white; June. *Plant,* garlic-scented. *Soil,* ordinary. *Position,* sunny borders, beds or rockeries. *Plant,* Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors, Mar. or Ap., where plants are required to grow; division of plants in Mar. or Ap.

Pelu-tree (*Sophora tetraptera*)—see Sophora.

Penang Lawyers (*Licuala acutifida*)—see Licuala.

Pendulous Catch-fly (*Silene pendula*)—see Silene.

Pendulous Sedge (*Carex pendula*)—see Carex.

Penguin-plant (*Bromelia Pinguin*)—see Bromelia.

Pennisetum.—*Ord.* Graminaceæ. Hardy perennial grasses. Flowering & orn. foliage. *Nat.* Monte Video, Abyssinia. *Int.* date unknown. *Ht.* *P. longistylum,* 12 to 18 in.; *P. latifolium,* 9 to 10 ft. *Species* cultivated, 2. *Inflorescence* of *P. longistylum* borne in twisted spikes, purplish; Aug. *Leaves* of *P. latifolium,* lance-shaped, bright green with white veins. CULTURE OF P. LATIFOLIUM: *Soil,* sandy loam. *Position,* sheltered well drained borders in warm parts of the kingdom only. *Plant,* Ap. *Protect* in severe weather with covering of mats, or lift in Nov., place in large pots or tubs & remove to greenhouse, replanting outdoors in Ap. or May. CULTURE OF P. LONGISTYLUM: *Soil,* ordinary. *Position,* sunny borders. *Sow* seeds $\frac{1}{16}$ in. deep in patches a foot or more in diameter in Mar. or Ap., where plants are to flower. *Gather* inflorescence for winter use, end of July. *This* species is best treated as an annual. *Propagate P. latifolium* by seed sown $\frac{1}{16}$ in. deep in sandy soil in shallow boxes or pans in temp. 60° to 65°, Mar. or Ap., transplanting seedlings outdoors in May or June; division of root in Ap.

Pennsylvanian Catch-fly (*Silene pennsylvanica*)—see Silene.

Penny-leaf (*Linaria cymbalaria*)—see Linaria.

Penny Royal (*Mentha pulegium*)—see Mentha.

Penny-royal Oil-larch (*Mentha pulegium*)—see Mentha.

Penny-wort (*Linaria cymbalaria*)—see Linaria.

Pentas.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* S. Africa. *Int.* 1842. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers,* pink, crimson, rose; winter. *Compost,* equal parts fibrous peat & leaf-mould, half-part each light loam & sand. *Pot,* Feb. to Ap. *Position,* well drained pots in light part of stove. *Water* moderately, Sept. to Ap.; freely at other times. *Syringe* daily, Ap. to Sept. *Prune* plants into shape immediately after flowering. *Nip* off points of young shoots occasionally during May, June, & July to induce bushy habit of growth. *Temp.*, Sept. to Ap., 50° to 60°; Ap. to Sept., 60° to 75°. *Propagate* by cuttings of young shoots, 2 to 3 in. long inserted singly in 2-in. pots filled with sandy compost & placed under bell-glass in temp. of 75°. spring or sum.

Pentstemon (Beard Tongue).—*Ord.* Scrophulariaceæ. Hardy & half-hardy herbaceous perennials. *Nat.* Mexico, Texas, California, N. America. *Int.* 1794. *Ht.* 6 in. to 3 ft. *Species* cultivated, 14 half-hardy, 53 hardy. *Flowers*, blue, white, crimson, purple, lilac, rose, scarlet, red, orange; May to Oct. CULTURE OF HALF-HARDY SPECIES: *Soil*, ordinary sandy. *Position*, well drained sunny borders or rockeries. *Plant*, Ap. *Insert* cuttings in well drained pots of sandy soil in Aug., & preserve in cold frame or greenhouse during winter. CULTURE OF HARDY SPECIES AND HYBRIDS: *Soil*, two parts rich loam, one part decayed manure or leaf mould. *Plant*, Mar. or Ap. *Position*, sunny beds or borders, well drained. *Apply* stimulants once or twice a week in sum. *Suitable stimulants*: Liquid cow or horse manure; superphosphate at the rate of a tablespoonful to each plant forked into surface of soil in May; nitrate of soda ¼ oz. to a gall. of water once a week; Peruvian guano ½ oz. to gall. of water twice a week. *Propagate* by seeds sown 1/16 in. deep in a well drained pot or pan of light soil in temp. 55° to 65° in Feb. or Mar., transplanting seedlings outdoors in May; cuttings of young shoots 3 in. long inserted in sandy soil in boxes or a bed under hand-light, or in cold frame in Aug., allowing them to remain there until Ap.; division in Ap.

Peony (*Pæonia officinalis*)—see Pæonia.

Peperomia (Pepper-Elder).—*Ord.* Piperaceæ. Stove herbaceous perennials; creeping & erect; orn. foliage. *Nat.* Mexico, W. Indies, New Grenada, Peru, Ecuador. *Int.* 1815. *Ht.* 3 to 15 in. *Species* cultivated, about 19. *Leaves*, roundish or egg shaped; green, variegated with white. *Compost*, equal parts fibrous loam & peat with half a part sand. *Pot*, Mar. or Ap. *Position*, small well drained pots for erect species, shallow pans or beds for creeping species. *Shade* from sun. *Water* moderately in winter; freely in sum. *Syringe* daily, Ap. to Sept. *Temp.*, Ap. to Sept., 60° to 75°; Sept. to Ap., 55° to 65°. *Propagate* by cuttings of shoots or single joints with leaf attached inserted in sandy peat & plunged in bottom heat in temp. 65° to 75° in spring.

Pepper-bush (*Andromeda racemosa*)—see Andromeda.

Peppermint (*Mentha piperita*)—see Mentha.

Pepper-wort (*Lepidium latifolium*)—see Lepidium.

Perennial Flax (*Linum perenne*)—see Linum.

Perennial Goose-foot (*Chenopodium Bonus-Henricus*)—see Chenopodium.

Perennial Honesty (*Lunaria rediviva*)—see Lunaria.

Perennial Lettuce (*Lactuca perennis*)—see Lactuca.

Perennial Sunflower (*Helianthus multiflorus*)—see Helianthus.

Pereskia (Barbadoes Gooseberry).—*Ord.* Cactaceæ. Stove succulent perennials. *Nat.* W. Indies, Brazil, Mexico. *Int.* 1696. *Ht.* 3 to 15 ft. *Species* cultivated, 3. *Flowers*, white, red, purple; Oct. to June. *Compost*, equal parts loam, peat & leaf-mould, one fourth sand. *Pot*, Mar. *Position*, small well drained pots in light dry part of stove, or in beds with shoots trained to dry wall. *Water* moderately, Sept. to Ap.; freely afterwards. *Temp.*, Sept. to Mar., 50° to 60°; Mar. to Sept., 65° to 75°. *P. aculeata* & *P. Bleo* grown chiefly for stocks for grafting epiphyllums on. *Propagate* by cuttings of stem inserted singly in 2-in. pots filled with sandy soil & placed on a light dry shelf in temp. 65° to 75° in spring. Allow one shoot only to grow for forming a stock, & train this to a stake fixed in soil until high enough, then graft.

Perfoliate Honeysuckle (*Lonicera caprifolium*)—see Lonicera.

Perfoliate St. John's Wort (*Hypericum perfoliatum*)—see Hypericum.

Perfumed Cherry (*Cerasus Mahaleb*)—see Cerasus.

Perilla.—*Ord.* Labiatæ. Half-hardy orn.-foliaged annual. *Nat.* India, China. *Int.* 1770. *Ht.* 1 to 3 ft. *Species* cultivated, 1; variety, 1. *Leaves*, egg-shaped, pointed; green or dark bronzy purple, with fimbriated edges. *Sow* seeds $\frac{1}{16}$ in. deep in shallow boxes or pans filled with ordinary light soil placed in temp. of 65° to 75° in Feb. or Mar. *Transplant* seedlings when three leaves have formed singly into 2-in. pots, or 2 inches apart in shallow boxes. Keep in temp. 55° to 65° till May, then transfer to cold frame; gradually harden off & plant outdoors in June. *Adapted* for masses in borders or for lines in, or edgings to, beds.

Periploca (Climbing Dog's-bone, Milk-vine, Silk-vine, Syrian Silk-plant, Virginian Silk).—*Ord.* Asclepiadaceæ. Hardy deciduous twiner. *Nat.* S. E. Europe. *Int.* 1597. *Ht.* 7 to 16 ft. *Species* cultivated, 1. *Flowers*, green, brown; July. *Soil*, ordinary. *Position*, walls, harbours, summer-house or trellises in any aspect. *Plant*, Oct., Nov., Feb. or Mar. *Prune* away very weak or old distorted shoots only in Mar. *Apply* liquid manure occasionally during the flowering season. *Propagate* by cuttings inserted under bell-glass or hand light outdoors, July to Oct.; layering shoots, Sept. or Oct.

Peppermint Thyme (*Thymus piperella*)—see Thymus.

Peristeria (Dove-Flower, Dove-Orchid).—*Ord.* Orchidaceæ. Stove evergreen orchids. *Nat.* Central America, Demarara. *Int.* 1826. *Ht.* 1 to 5 ft. *Species* cultivated, 4. *Flowers*, yellow, white, lilac, red; fragrant; June to Sept. *Compost*, equal parts loam, leaf-mould & fine crocks. *Pot*, Mar. or when new growth begins. *Position*, well drained pots or teak baskets. *Water* freely Ap to Sept.; keep nearly dry afterwards. *Temp.*, Oct. to Ap., 60° to 65°; Ap. to Oct., 65° to 75°. *Apply* weak stimulants occasionally when plants are growing freely. *Growing period*, Mar. to Oct. *Resting period*, Oct. to Mar. *Propagate* by division of pseudo bulbs, Mar.

Periwinkle (*Vinca minor*)—see Vinca.

Pernettya (Prickly Heath).—*Ord.* Ericaceæ. Hardy evergreen berry-bearing shrubs. *Nat.* Mexico, Valdivia. Magellan Straits. *Int.* 1825. *Ht.* 2 to 6 ft. *Species* cultivated, 10. *Flowers*, white; Ap. to June. *Berries*, crimson, blue, black, rose, cream; autn. OUTDOOR CULTURE: *Soil*, peaty. *Position*, moist rockeries or margins of open or shady shrubberies & beds. *Plant*, Sept. to Nov., or Mar. to May. POT CULTURE: *Compost*, two parts peat, one part leaf mould and sand. *Position*, cool or cold greenhouses, or dwelling rooms. *Pot*, Oct. or Nov. *Water* moderately. *When* berries shrivel or fall off, plants no further use for pot culture; plant outdoors. WINDOW BOXES: *Soil*, ordinary. *Position*, sunny or shady. *Plant*, Sept. to Jan. *Remove* when berries shrivel. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in bed of peaty soil outdoors in autn.; layering shoots in Mar. or Ap.

Persian Asafœtida Plant (*Ferula persica*)—see Ferula.

Persian Cyclamen (*Cyclamen persicum*)—see Cyclamen.

Persian Lilac (*Syringa persica*)—see Syringa.

Persian Lily (*Fritillaria persica*)—see Fritillaria.

Persian Stock (*Mathiola odoratissima*)—see Mathiola.

Persian Tulip (*Tulipa persica*)—see Tulipa.

Persica (Peach & Nectarine).—*Ord.* Rosaceæ. Hardy deciduous fruit-bearing & flowering trees. *Nat.* (peach & nectarine) Eastern Asia; (flowering peach) China. *Int.* 1562. *Ht.* 10 to 15 ft. *Species* cultivated, 2; varieties many. *Flowers*, single and double; rose, white, & crimson; spring. *Fruit* of peach large & downy; nectarine small or medium, smooth. CULTURE OF FLOWERING PEACH (*P. Davidiana*); *Soil*, ordinary well drained, no manure except as a mulch. *Position*, against south or west walls, or as standards, S. of England. *Plant*, Oct. to Feb. *Prune*, Feb., thining out weak shoots only. *Disbud* shoots on trees growing against walls in June. POT CULTURE: *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Oct. to Dec. *Place* in temp. 55° to 65° in Nov. to flower early; in cold greenhouse in Oct. to flower in spring. *Stand* in sunny spot outdoors, May to Oct. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally in spring & sum. CULTURE OF PEACH AND NECTARINE: *Soil*, deep, but not over-rich sandy loam, well drained, & free from manure. *Position*, south or south-west walls, fully exposed to sun. *Plant*, Oct. to Feb. *Distances for planting*: Cordons, 18 in.; dwarf fan-trained, 15 ft.; standard fan-trained, 15 ft. *Depth of soil above* roots, 4 to 6 in. *Approximate cost of trees, each*: cordons, 1s. 6d.; dwarf fan, 3s. 6d.; half & full standard fans, 7s. 6d. *Prune*, Jan. or Feb. *Fruit* borne on old spurs & shoots of previous years' growth. Do not shorten the latter unless very strong. Always cut back if possible to a triple bud. *Train* previous year's shoots 2 to 3 in. apart all over tree. Remove a small proportion of shoots that have borne fruit annually to make room for new ones. *Fruit buds*, conical, downy. *Wood buds*, pointed, narrow. *Disbud*, *i.e.*, rub off young shoots, Ap., May, & June, removing those growing out of front of branches, & reducing those issuing from the sides of previous year's shoots to 6 in. apart each side. *Train* young shoots when 3 to 6 in. long to the wall. *Protect* blossoms from frost by covering of tiffany or fish netting in Feb. & Mar. *Thin* fruit when size of a hazel nut to 3 or 4 in. apart; again when size of a walnut to 10 & 12 in. apart. *Average number of fruit for a full-grown tree to carry*: about 240. *Mulch* with decayed manure in Mar. or Ap. *Apply* stimulants occasionally, Ap. to Aug. *Suitable artificial manures*: (1) 1½ oz. salt & 3 oz. soot per square yard, applied in Mar.; (2) 1 part (by weight) crude magnesium sulphate, 6 parts muriate of potash, 18 parts bone superphosphate forked into the soil at the rate of 7 lb. per tree after pruning; (3) ½ lb. kainit, ¾ lb. each of superphosphate & nitrate of soda, 1½ lb. salt, applied as advised for No. 2. *Liquid manures*: nitrate of soda ½ oz. to gallon; guano 1 oz. to gallon; horse & cow manure diluted one third – all applied in spring & sum. UNDER GLASS: *Soil*, planting, pruning, manuring, same as for outdoors. *Temp. for forcing*: Jan. 40° to 50°; Feb. 45° to 55°; Mar. & onwards, 55° to 65°. *Disbud* when shoots are an inch or so long. *Syringe* twice daily until blossoms open, then cease; commencing again when fruit forms, & discontinuing when it begins to ripen. *Ventilate* freely in sum. *Thin* the fruit when the size of a hazel nut to 3 or 4 in. apart; & again when as large as a walnut to a foot apart. *Water* border thoroughly in Jan. or Feb., again in Mar., May, July, & Sept. *Apply* stimulants, Mar., May, July, & Sept. TREES IN POTS: *Compost*, two parts decayed turfy loam, one part well decayed manure, a quarter part crushed bones, & a tablespoonful of superphosphate to each bushel. *Pot*, Nov. *Stand* the trees in a sheltered corner till Jan., when remove to greenhouse. *Water* moderately at first, freely in spring & sum., none in winter. *Pruning*, manuring, etc., as advised above. DOUBLE-FLOWERED PEACH: *Soil*, ordinary. *Position*, open, sunny shrubberies or borders. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb., thinning out over-crowded branches only. *Varieties cultivated*, Common Double (*P. vulgaris flore pleno*); Double White (*P. v. fl. pl. albo*); Double Crimson (*P. v. fl. pl. sanguinea*); Carnation Flowered (*P. v. fl. pl. caryophylliflora*). *Propagate* by seeds sown 2 in. deep outdoors in sum. or autn.; by budding on the mussel or white pear plum in July; grafting in Mar.

Peruvian Begonia (*Begonia peruviana*)—see Begonia.

Peruvian Cotton-plant (*Gossypium peruvianum*)—see Gossypium.

Peruvian Daffodil (*Ismene Amancæs*)—see Ismene.

Peruvian Heliotrope (*Heliotropium peruvianum*)—see Heliotropium.

Peruvian Nasturtium (*Tropæolum tuberosum*)—see Tropæolum.

Peruvian Swamp Lily (*Zephyranthes candida*)—see Zephyranthes.

Peruvian Trumpet-flower (*Brugmansia suaveolens*)—see Brugmansia.

Petasites (Winter Heliotrope, Butter Burr, Bog Rhubarb).—*Ord.* Compositæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Arctic Regions. *Int.* (foreign species) 1713. *Ht.* 6 to 18 in. *Species* cultivated, 4. *Flowers*, white, pink; fragrant; Feb. to May. *Leaves*, kidney or heart-shaped, large, downy beneath, green. *Soil*, ordinary. *Position*, shrubberies or woodland, partially shaded, for *P. fragrans* & *P. frigida*; margins of streams & ponds for *P. nivens* & *P. vulgaris*. *Plant*, Oct. or Nov. *Propagate* by division, Oct. or Nov.

Petrea (Purple Wreath).—*Ord.* Verbenaceæ. Stove-flowering climber; deciduous. *Nat.* Brazil. *Int.* 1733. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, purple; May to Aug. *Compost*, equal parts loam, leaf-mould, peat, & sand; little charcoal. *Position*, well drained pot, bed, or border, with shoots trained up rafters or trellis in shady part of stove. *Pot* or plant, Feb. or Mar. *Prune* slightly, Feb. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 60°. *Propagate* by cuttings of firm young shoots inserted in sandy soil in well drained pot under bell-glass in temp. 65° to 75°, spring & sum.

Petrocallis (Rock Beauty).—*Ord.* Cruciferæ. Hardy perennial herb. *Nat.* Alps & Pyrenees. *Int.*, date unknown. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, white, purple; May to June. *Soil*, moist sandy loam. *Position*, crevices or chinks of sunny rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown in Ap. where plants are to grow; division of roots in Mar.

Petrosolinum (Parsley).—*Ord.* Umbelliferæ. Hardy biennial culinary herb. *Nat.* Sardinia. *Int.* 1548. *Ht.* foliage 4 to 6 in.; flower stem 2 ft. *Species* cultivated, 1; varieties many. *Leaves*, plain or curled; green. *Soil*, ordinary, deep, rich, moist; light soil not suitable. *Position*, partially shady; as edgings to borders, or in rows. *Sow* in Feb., May, and July in drills ½ in. deep & 12 in. apart. *Thin* seedlings when 1 in. high to 3 in. apart, & later on to 8 in. apart. *Thinnings* may be replanted to form a fresh bed if desired. When leaves become coarse cut them all off to induce fresh growth. *Renew* beds every second year. *Suitable artificial manures*, 2½ oz. superphosphate per square yard before sowing; 2½ oz. nitrate of soda forked in when the plants are thinned; 1 oz. superphosphate, ½ oz. nitrate of soda, ¼ oz. iron sulphate, to a gallon of water, applied in sum. (Griffiths). *Propagate* as above. *Seed* retains its vegetative power 3 years. *Quantity* required for a row 50 ft. long, 1 oz.

Pettigree Shrub (*Ruscus aculeatus*)—see Ruscus.

Petunia.—*Ord.* Solanaceæ. Half-hardy herbaceous perennials. *Nat.* Buenos Ayres, S. America. *Int.* 1823. *Ht.* 1 to 3 ft. *Species* cultivated, about 7; varieties numerous. *Flowers*, various; spring & sum. *P. nyctaginiflora* & *P. violacea* are the parents of the present race of single & double kinds. INDOOR CULTURE: *Compost*, two parts decayed turfy loam, one part well rotted manure, quarter part silver sand. *Position*, sunny greenhouse or window. *Shade* only from bright sun. *Pot*, Feb. to June, moderately firm. Size of pots, 3, 5, & 6 in. *Pinch* out point of young shoots occasionally in spring to induce bushy growth. *Prune* shoots of old plants moderately close in Feb. or Mar. *Water* moderately, Sept. to Ap.; freely afterwards. *No syringing* required. *Apply* stimulants to established plants when flower buds form. *Train* shoots to stakes. *Suitable liquid manures:* ¼ oz. nitrate of soda or sulphate of ammonia to 1 gallon of water, applied three or four successive times only; ½ oz. guano to a gallon of water applied twice a week; one fourth liquid cow, horse, sheep, or deer dung to three fourths water applied as advised for guano. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. OUTDOOR CULTURE: *Soil*, ordinary rich. *Position*, sunny beds, borders, vases, or trellises. *Plant*, June. *Lift*, Sept., & store in pots in greenhouse to furnish cuttings in spring. *Water* freely in dry weather. *Place* in cold frame in May to harden before planting out. *Apply* stimulants as above. *Propagate* by seeds sown on surface of a compost of equal parts good soil, leaf-mould & sand in a well-drained pot or pan, in temp. 65° to 75° in Feb., Mar., or Ap.; by cuttings of young shoots inserted in light sandy soil in pots, pans, or boxes in temp. 55° to 65° any time in spring.

Peucedanum (Parsnip).—*Ord.* Umbelliferæ. Hardy biennial esculent-rooted vegetable. *Nat.* England. *Species* cultivated, 1.; varieties several. *Flowers*, yellow; July & Aug. *Soil*, rich ordinary, previously trenched three spits deep, & not recently manured. *Position*, open & sunny. FIRST METHOD: *Draw* drills 1 in. deep & 15 in. apart. *Sow* seeds in groups of three or four 12 in. apart, Mar. or Ap. *Thin* seedlings when 2 in. high to one in each group. SECOND METHOD: *Dig* out a trench 30 in. wide, 18 in. deep. *Put* 3 in. decayed manure in bottom, then 6 in. of soil mixed with a little manure, & fill up with fine friable soil. *Sow* two or three seeds in groups a foot apart down centre of the trench. *Reduce* the seedlings when 2 in. high to one in each group. THIRD METHOD: *Make* holes 3 ft. deep, 8 in. in diameter at top & 15 in. apart each way. *Fill* the lower six inches of the hole with a compost of fine soil, decayed manure, & a pinch of superphosphate. The remaining space fill with similar material, but with the addition of soot & a pinch of salt. *Sow* the seeds in groups of three or four, & thin to one plant when 2 in. high. *Suitable artificial manures:* (1) 1 lb. salt, 1½ lbs. nitrate of soda, 3½ lbs. superphosphate, 1½ lbs kainit, half to be applied to a square rod before sowing, & remainder when plants are thinned; (2) 2¼ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. guano per square rod, to be applied like No. 1 (Griffiths). *Lift* & store roots only in event of bad weather; they retain their flavour better lifted as wanted from the ground. Some authorities give the generic name as *Pastinacea*. *Seed* retains its vegetative powers for one year only. *Quantity* required for a row 50 ft. long, 1 oz.

Phacelia.—*Ord.* Hydrophyllaceæ. Hardy annual & perennial herbs. Flowering. *Nat.* Texas, California, N. W. America. *Int.* 1826. *Ht.* 3 in. to 2 ft. *Species* cultivated, 12 annuals, 5 perennials. *Flowers*, blue, violet, purple, white, yellow, brown, rose; May to Aug. *Soil*, ordinary rich. *Position*, sunny or partially shaded beds or borders. *Sow* seeds of annual species in patches or lines where required to grow in Ap. *Thin* seedlings 2 to 3 in. apart in June. *Plant* perennial species, Oct. to Ap. *Mulch* with decayed manure, Ap. *Propagate* annual species by seed as above; perennial species by seeds sown 1/16 in. deep outdoors in Ap., transplanting seedlings 6 in. apart in a nursery bed, May or June, transplanting to flowering position, Oct. or Nov.; division of roots, Oct. or Ap.

Phænocoma.—*Ord.* Compositæ. Greenhouse evergreen flowering shrub. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 1. *Flowers*, crimson; May to Sept. *Compost*, two parts good brown fibrous peat, one part silver sand & little charcoal. *Position*, well drained pots in light part of greenhouse; no shade. *Pot*, Mar. or Ap. *Firm* potting most essential. *Prune* straggling shoots only, moderately in Feb. or Mar. *Water* moderately, Sept. to Ap.; freely afterwards. *No* syringing required. *Admit* air freely in sum. *Shoots* can be trained round stakes or trellis. *Propagate* by cuttings of firm young side shoots, inserted in well drained pots of sandy peat under bell-glass in temp. of 55° to 65°, sum.

Phædranassa (Queen Lily).—*Ord.* Amaryllidaceæ. Warm & cool greenhouse flowering bulbous plants. *Nat.* Costa Rica, Ecuador, Columbia, The Andes. *Int.* 1800. *Species* cultivated, 8; varieties, 1. *Flowers*, crimson, red, scarlet, green, yellow; Mar. to Oct. *Compost*, two parts sandy loam, one part leaf-mould & half a part sand. *Position*, well drained pots near the glass, Mar to Oct.; in dry place under stage, Oct. to Mar. *Pot*, Feb. or Mar. *Water* moderately, Mar. to May; freely, May to Oct.; keep nearly dry, Oct. to Mar. *Apply* stimulants, May to Aug. only. *Temp.* for warm greenhouse species, 60° to 70°, Mar. to Sept.; Sept. to Mar., 50° to 55°; for cool greenhouse species, 55° to 65°, Mar. to Sept.; 40° to 50°, Sept. to Mar. *Repot* annually, removing old soil away from bulbs. *Place* in small pots first, shift into larger sizes later on. *No* shade required. *Propagate* by seeds sown ⅛ in. deep in well drained pots or pans of sandy soil in temp. of 65° to 75° in spring; off sets removed & treated as old bulbs at potting time.

Phaius.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Nepaul, Rangoon, Ceylon, Mauritius, Madagascar. *Int.* 1778. *Ht.* 1 to 3 ft. *Species* cultivated, 14. *Flowers*, white, rosy purple, red, yellow, brown, orange; nearly all the year round. *Compost*, equal parts leaf-mould, loam, & decayed cow manure. *Pot*, Mar. or Ap. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely, Ap. to Sept.; moderately, Sept. to Jan.; keep nearly dry, Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period:* Mar. to Oct.; *resting period:* Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Phalænopsis (Moth Orchid, Indian Butterfly-plant).—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchids, Orn. foliage. *Nat.* Malay Archipelago, Eastern India. *Int.* 1836. *Species* cultivated, about 30; varieties many. *Flowers*, white, yellow, purple, rose, brown, cream, violet; autn., winter, & spring. *Leaves*, green or variegated. *Compost*, equal parts sphagnum moss, fibrous peat with fine particles removed, charcoal, & clean potsherds. *Position*, shallow pans, small teak baskets, or blocks of wood, suspended from roof of stove. *Plant* in pans or baskets or fix to blocks, Feb. to Mar. In fastening plants to blocks, first place layer of moss, then roots of plant, then another layer of moss, & secure firmly with copper wire. *Pans* to be well drained. *Water* daily, Mar. to Ap.; baskets or blocks by dipping in tepid water; once or twice a week, Oct. to Mar. *Moist* atmosphere very essential in sum. *Shade* from sun. *Temp.*, 65° to 80°, Mar. to Oct.; Oct. to Mar., 60° to 65°. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Admit* moderate amount of air in sum. *Propagate* by division or by offsets removed from flowering stems when well rooted.

Phalaris (Canary Reed, Sword Grass, Bride's Laces, French Grass, Gardeners' Garters, Lady Grass, Lady's Garters, Lady's Laces, Painted Grass, Ribbon Grass, Silver Grass, Canary Grass). — *Ord.* Graminaceæ. Hardy annual & perennial flowering & ornamental grasses. *Nat.* Northern Hemisphere (Britain), S. Europe, Africa, Asia. *Ht.* 18 in. to 4 ft. *Species* cultivated, 2; variety 1. *Flowers*, white, green, purple, borne in panicles; July. *Leaves*, green or variegated with white. CULTURE OF ANNUAL SPECIES: *Sow* seeds ⅛ in. deep in Ap. where required to grow. *Soil*, ordinary. *Position*, sunny. CULTURE OF PERENNIAL SPECIES: *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. to Ap. *Lift*, divide, & replant every 2 or 3 years. *Propagate* perennials by seeds sown outdoors in Ap., transplanting seedlings following Oct.; division of plants, Oct. to Ap.

Pharaoh's Corn (*Triticum compositum*)—see Triticum.

Phaseolus (Kidney Bean, Scarlet Runner, Runner Bean, French Bean, Climbing Snail Flower).—*Ord.* Leguminosæ. Stove & greenhouse deciduous twining perennials & annuals & hardy esculent-podded vegetables. *Nat.* (Kidney Bean) Tropics; others, Africa, S. America, India, & Buenos Ayres. *Int.* Kidney Bean (*P. vulgaris*), 1597; Snail Flower (*P. caracalla*), 1690. *Ht.* 1 to 12 ft. *Species* cultivated, about 4; varieties several. *Flowers*, white, scarlet, purple, & yellow; sum. CULTURE OF SNAIL FLOWER: *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots, shoots twining round trellis, posts, or pillars. *Pot*, Feb. *Water* moderately in winter; freely in sum. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in light soil in temp. 65° in Mar.; cuttings inserted in sandy soil under bell-glass in temp. 65° in Ap. CULTURE OF

Kidney Bean (*P. vulgaris*): *Soil*, light, rich, well manured & dryish. *Position*, open, sunny. *Draw* drills 3 in. deep & 18 in. apart. *Sow* seeds 4 in. apart end of Ap.. middle of May, beginning of June, & end of July. *Thin* seedlings when three leaves appear to 12 in. apart, replanting thinnings to form another row or rows. *Water* the drills thoroughly if soil is dry before sowing the seeds. *Mulch* with manure when seedlings appear. *Water* freely in dry weather. *Apply* stimulants when pods form. *Plants* bear earlier if sown along centre of early celery ridges than if sown in open garden. Pot Culture: *Compost*, two parts good soil, one part decayed manure. *Size of Pots*, 8 in. *Put* 1 in. of crocks in bottom, next a layer of half decayed tree leaves or fresh horse droppings, then enough compost to half fill the pot. *Dibble* seeds ½ in. deep, 2 in. apart. *Moisten* with tepid water. *Water* moderately when seeds sprout; freely when 1 in. high. *Top-dress* with equal parts soil & manure when plants reach rim of pot. *Apply* stimulants after top-dressing has been done a fortnight. *Temp.*, 55° to 65°. *Support* shoots with small twigs. *No* shade required. Keep close to glass. Culture of Runner Beans (*P. vulgaris multiflorus*): *Soil*, light, deep, well manured. *Position*, sunny or partially-shady garden, arbour, trellis, or fences; former best. *Sow* seeds first week in May 4 in. apart, and 3 in. deep in drills 6 ft. asunder; in double rows 9 in. apart & 8 ft. asunder; in trenches 9 inches wide, 12 in. deep, containing 3 in. manure & 6 in. soil, seeds being dibbled 2 in. deep 4 in. apart in two rows 6 in. asunder, thus: . · . · . · . *Support* plants with stakes or strands of twine when 6 in. high, or nip off point of main shoot when 2 ft. high, & subsequent shoots when 6 in. long to ensure dwarf habit. *Mould* up those sown in drills. *Mulch* with manure. *Water* freely in dry weather, otherwise flowers will fall off. *Apply stimulants* freely when pods form. *Suitable artificial manures*: (1) 3 lbs. salt; 1½ lb. each of nitrate of soda & superphosphate; 1 lb. kainit, half this to be applied to a square rod before sowing, remainder in June. (2) 2 lbs. kainit; 5 lbs. nitrate of soda; 9 lbs. superphosphate; 1 lb. sulphate of iron per square rod, to be applied when the plants are three inches high. *Liquid manures*: ¼ oz. nitrate of soda to a gallon; 1 oz. guano to a gallon; one-third horse or cow manure diluted with two-thirds water to be applied when pods form. *Quantity of Seed Required* for a row 50 ft. long: ½ pint of kidney beans; 1 pint of runner beans. *Seeds* retain their vegetative powers for 3 years.

Pheasant's-eye (*Adonis autumnalis*)—see Adonis.

Pheasant's-eye Pink (*Dianthus plumarius annulatus*)—see Dianthus.

Phegopteris.—*Ord.* Filices. Stove & greenhouse ferns; allied to, & now included under Polypodium. Evergreen & deciduous. *Nat.* Tropical America, E. & W. Indies, & Tasmania. *Int.* 1769. *Ht.* 1 to 5 ft. *Species* cultivated, 1 greenhouse, 13 stove. *Fronds*, feather-shaped or many times divided. *Compost*, equal parts loam, peat, leaf-mould, & silver sand. *Pot*, Feb. to Ap. *Position*, pots, baskets, or rock beds. *Shade* from sun essential. *Moist* atmosphere, Feb. to Sept.; moderately moist afterwards. *No* syringing required. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *No* stimulants. *Temp.* for greenhouse species, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°; stove species, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. *Propagate* by spores when ripe; division in Mar.

Philadelphus (Syringa, Mock-orange).—*Ord.* Saxifragaceæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, Mexico, N. America, India, China, Japan. *Int.* 1596. *Ht.* 2 to 10 ft. *Species* cultivated, 23; varieties several. *Flowers*, white, fragrant; May to Aug. Outdoor Culture: *Soil*, ordinary good. *Position*, sunny borders or forecourts. *Plant*, Oct. to Feb. *Prune* immediately after flowering, shortening shoots that have bloomed only. *Apply* soap suds or liquid manure occasionally to old established shrubs in sum. Pot Cultue: *Compost*, two parts sandy loam, one part leaf-mould, & sand. *Repot* annually after flowering. *Position*, cold greenhouse, Dec. to May, or warm greenhouse, Dec. to Ap.; outdoors afterwards in sunny spot;

pots plunged to rim in coal ashes or soil. *Water* moderately indoors; freely outside. *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 55° in Ap., or in close cold frame outdoors in May; suckers or layers in spring.

Philesia.—*Ord.* Liliaceæ. Half-hardy evergreen flowering shrubs. *Nat.* Valdivia. *Int.* 1853. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, pink; June. *Compost*, equal parts peat, loam, & coarse silver sand. *Position*, against walls, or in pots, in cold or cool greenhouse; against walls or in sheltered nooks outdoors, S.W. of England or Ireland. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* foliage daily in greenhouse, Mar. to Oct. *Prune* directly after blooming. *Apply* weak stimulants once a week, May to Sept. *Propagate* by cuttings inserted in sandy peat under bell glass in greenhouse in sum.; suckers in spring.

Phillyrea (Jasmine Box, Mock Privet).—*Ord.* Oleaceæ. Hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* S. Europe. *Int.* 1597. *Ht.* 5 to 15 ft. *Species* cultivated, 15; varieties 7. *Flowers*, small, white; May. *Leaves*, lance or egg-shaped, dark green. *Soil*, ordinary. *Position*, sunny borders; sheltered corners N. England. *Plant*, Sept. to Ap. *Prune* straggly shoots only in Ap. *Propagate* by cuttings of firm shoots inserted in sandy soil in cold frame in Sept; grafting on common privet in Mar.

Philodendron.—*Ord.* Aroideæ. Stove evergreen dwarf or climbing plants. Orn. foliage. *Nat.* Tropical America, W. Indies. *Int.* 1759. *Ht.* 1 to 10 ft. *Species* cultivated, 47. *Leaves*, heart, egg, or arrow-shaped, oblong; green. *Compost*, equal parts peat, leaf-mould, loam, & silver sand. *Pot* or plant, Jan. to Ap. *Position*, dwarf kinds in pots; tall ones in beds or borders, with shoots trained up walls or pillars. *Water* freely all the year round. *Syringe* daily. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of stems inserted in light soil in temp. 75° at any time.

Phlebodium (Golden Polypody).—*Ord.* Filices. Stove evergreen ferns. *Nat.* West Indies, Phillipines. *Int.* 1742. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Fronds*, large, once divided, green or glaucous. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap. to Oct. *Moist* atmosphere essential. *No* syringing required. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 60°. ROOM CULTURE OF P. AUREUM: *Compost* & potting as above. *Position*, near window, free from cold draughts. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 45° to 55°. *Water*, Oct. to Mar., once a week; Ap. to June & Sept. to Oct., twice a week; June to Sept., three times a week. *Propagate* by spores sown on surface of sandy peat in well drained pans placed in temp. 70° to 80° any time of year; division of creeping stems at potting time.

Phleum (Variegated Cat's Tail Grass).—*Ord.* Graminaceæ. Hardy perennial grass. Orn. foliage. *Nat.* Britain. *Ht.* 2 to 3 ft. *Species* cultivated, 0; variegated variety of P. only. *Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Oct. to Ap. *Propagate* by division of roots, Oct. or Ap.

Phlomis (Jerusalem Sage, Lampwick).—*Ord.* Labiatæ. Hardy & half-hardy herbaceous perennials & evergreen shrubs. *Nat.* S. Europe, Asia, India, Africa. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 13 hardy & 6 half-hardy perennials; 7 evergreen shrubs; varieties several. *Flowers*, purple, yellow, white; June to Aug. CULTURE OF HALF-HARDY SPECIES: *Compost*, two parts sandy loam, one part leaf-mould, half-a-part sand. *Position*, well drained pots in sunny cold greenhouse or frame. *Repot* annually, Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Apply* stimulants occasionally, May to Sept. HARDY HERBACEOUS SPECIES: *Soil*, ordinary. *Position*, sunny beds, borders, rockeries, or banks. *Plant*, Oct. to Ap. *Lift*, divide, & replant every three years. HARDY EVERGREEN SPECIES: *Soil*, good ordinary or sandy loam. *Position*, sunny well drained borders or rockeries. *Plant*, Oct. to Ap. *Mulch* with decayed manure in Mar. *Propagate* by seeds sown in light soil in warm greenhouse in Mar., or sunny spot outdoors in Ap.; herbaceous kinds also by division, Oct. or Mar.; shrubs by cuttings inserted in cold frame in Aug.

Phlox (Wild Sweet William of N. America, Texan Pride, American Moss Pink).—*Ord.* Polemoniaceæ. Hardy & half-hardy annual and perennial herbs. *Nat.* N. America, Texas, & Asia. *Int.* 1725. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3 half-hardy, 1 annual, 36 hardy perennials; varieties numerous. *Flowers*, red, crimson, violet, rose, purple, white, yellow; Ap. to Sept. Phloxes for garden cultivation are divided into four classes, viz., *Alpines*: P. pilosa, P. procumbens, P. reptans, P. subulata and varieties. *Early-flowering or Tall*: P. glaberrima suffruticosa & varieties. *Late-flowering* (*tall*): Phlox maculata decussata, P. paniculata, & varieties. *Annual*: P. Drummondi. Culture of Alpine Species: *Soil*, deep, rich sandy loam, containing a little leaf-mould or peat. *Position*, masses on or as edgings to sunny borders, or on ledges of rockeries. *Plant*, Mar. to May. *Lift* & divide only when grown too large for the position they occupy; Mar. Pot Culture of Alpines: *Compost*, two parts sandy loam, one part leaf-mould, & half a part sand. *Pot*, Mar. *Position*, cold frame or greenhouse. *Water* moderately, Oct. to Ap.; freely other times. *Admit* air freely always. Culture of Early and Late-flowering Kinds: *Soil*, deep rich moderately heavy loam; light soils not suitable. *Position*, sunny or partially-shaded borders, former preferable. *Plant*, Oct., Nov., Feb., or Mar. *Mulch* liberally with decayed manure in Mar. or Ap. *Apply* liquid manure frequently, May to Sept. *Water* freely in dry weather. *Cut* down stems in Oct. *Lift*, divide, & replant in fresh rich soil trienially. Pot Culture: *Compost*, two parts turfy loam, one part leaf-mould or rotten cow manure, & one part coarse sand. *Position*, cold partially-shaded greenhouse in sum.; cold frame in winter. *Pot*, Mar. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants once a week, May to Sept. Culture of Annual Species: *Sow* seeds $\frac{1}{16}$ in. deep in light soil in box, pan, or pot, in temp. 55° to 65°, Mar. *Transplant* seedlings 2 in. apart in boxes or pots, gradually harden off & plant outdoors, 6 in. apart, in rich soil, in sunny position, in June. *Nip* off point of main shoot after planting to induce bushy growth. *Water* freely in dry weather. *Mulch* with manure or cocoanut-fibre refuse. Pot Culture: *Compost*, two parts loam, one part decayed manure or leaf-mould & little sand. *Plant* four seedlings in 5-in. pot in Ap. *Keep* in temp. 55° until June, then place in cold frame or on outside window sill. *Water* freely. *Apply* stimulants when 3 in. high. *Nip* off points of shoots when 3 in. high. *No* repotting required. *Propagate* early & late kinds by seeds sown $\frac{1}{16}$ in. deep in sandy soil in temp. 55° in autm. or spring; by cuttings of shoots obtained from base of old plants inserted in sandy soil in temp. 55° in Mar.; by division of plants in Oct. or Mar.; by cuttings of shoots covered $\frac{1}{8}$ in. of soil in temp. 55° in Mar. or Ap. Alpines by cuttings of shoots inserted in sandy soil in cold frame in July; division in Mar. or Ap.

Phœnicophorium.—See *Stevensonia.*

Phœnix (Date Palm, Wild Date Palm, Slender Date Palm).—*Ord.* Palmaceæ. Stove & greenhouse palms. Orn. foliage. *Nat.* Central India, East Indies, S. E. & W. Africa, Levant. *Int.* 1597. *Ht.* 6 to 40 ft. *Species* cultivated, 9 stove; 1 greenhouse. *Leaves*, feather-shaped, green. Culture of Stove Species: *Compost*, three parts good fibrous loam, one part old cow manure, & a little coarse sand. *Position*, well drained pots or tubs in sunny part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; copiously, Mar. to Oct. *Syringe* foliage morning & evening daily, Ap. to Sept.; morning only, Sept. to Ap. *Apply* weak stimulants occasionally, May to Sept. *Place* a lump of sulphate of iron on surface of soil occasionally to keep foliage of a rich, healthy green hue. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. Culture of Greenhouse Species: *Compost*, as advised for stove species. *Pot*, Mar. or Ap. *Position*, light sunny part of greenhouse. *Water* moderately, Sept. to Ap.; freely afterwards. *No* syringing required. *Temp.*, Ap. to Sept., 60° to 70°; Sept. to Ap., 45° to 55°. *Propagate* by seeds sown 1 in. deep in light sandy soil under bell-glass or in propagator in temp. 75°; Mar. or Ap.

Phormium (Common Flax Lily, New Zealand Flax, Small Flax Lily, Variegated New Zealand Lily).- *Ord.* Liliaceæ. Half-hardy evergreen perennial herbs. *Nat.* New Zealand, New Caledonia. *Int.* 1798. *Ht.* 3 to 6 ft. *Species* cultivated, 2; varieties, 5. *Flowers*, yellow, green, white; June to Sept. *Leaves*, green or variegated with purple, yellow, or white. INDOOR CULTURE: *Compost*, two parts turfy loam, one part each of leaf-mould & sand. *Position*, pots, tubs, or beds in cold or warm greenhouse, conservatory, balcony, or dwelling room. *Pot*, Feb. to Ap. *Water* copiously, Ap. to Oct.; moderately afterwards. *May* be stood outdoors in sunny position, June to Sept. OUTDOOR CULTURE: *Soil*, light, deep loam. *Position*, margins of ponds or streams, isolated specimens on lawns, or in beds or borders S. & S. W. of England & Ireland only. In other districts plants must be put out in May, lifted in Oct. and stored in greenhouse until following May. *Plant* permanently in Ap. or May. *Water* freely in dry weather. *Protect* in severe weather those left outdoors all winter with straw or dried fern. *Propagate* by seeds sown ⅛ in. deep in pots of sandy soil in greenhouse or frame in Mar.; by division of roots in Ap.

Photinia (Chinese Hawthorn, Californian May Bush, Japanese Medlar, Japanese Quince, Loquat).—*Ord.* Rosaceæ. Half-hardy evergreen flowering shrubs. *Nat.* Mountains of India, China, Japan, California. *Int.* 1787. *Ht.* 10 to 30 ft. *Species* cultivated, 6. *Flowers*, white; May to Sept. *Fruit* of Loquat about the size of green walnut, pale orange red, downy, borne in bunches. OUTDOOR CULTURE: *Soil*, light deep loam. *Position*, against south walls S. & S. W. of England & Ireland only. *Plant*, Sept. to Nov., Ap. or May. *Prune*, Ap. *Protect* in severe weather with mats or straw hurdles. INDOOR CULTURE: *Soil*, two parts sandy loam, one part leaf-mould. *Position*, beds against back wall of cold or slightly heated sunny greenhouse. *Plant*, Oct. or Ap. *Water* moderately, Sept. to Ap.; freely afterwards. *Syringe* daily, May to Sept. *Prune* straggling shoots in Ap. *Propagate* by seeds sown ½ in. deep in pots of light soil in cold greenhouse or frame, spring or autn.; cuttings of firm shoots inserted in sandy soil in cold frame or greenhouse, Aug.; layering in Oct.; grafting on common quince in Mar.; budding on hawthorn in July.

Phrynium.—*Ord.* Scitaminaceæ. Stove & herbaceous perennials. Orn. foliage. *Nat.* E. Indies, Brazil, Malacca. *Int.* 1807. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, crimson; Oct. to Ap. *Leaves*, green or variegated. *Compost*, two parts fibrous peat, one part rich loam, one part sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Syringe* daily, Mar. to Sept. *Apply* weak stimulants occasionally during sum. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Repot* annually. *Propagate* by division of rhizomes in Feb. or Mar.

Phygelius (Cape Fig-wort).—*Ord.* Scrophulariaceæ. Half-hardy herbaceous perennial. *Nat.* S. Africa. *Int.* 1855. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, scarlet; June to Sept. *Soil*, light rich ordinary. *Position*, sunny well drained border at base of south wall S. & W. of England & Ireland only. *Plant*, Mar. or Ap. *Protect* in winter by covering of ashes or dry fern fronds placed around base of stem. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in shallow pans or boxes filled with light rich soil & placed in a temp. of 55° to 65°, Feb. or Mar., transplanting seedlings outdoors, May or June; by cuttings of ripened shoots inserted in pots in propagator in greenhouse or cold frame in July or Aug.; division of roots, Mar. or Ap.

Phyllanthus (Queensland Rock Broom). — *Ord.* Euphorbiaceæ.

Stove orn. foliaged plants. Evergreen. *Nat.* Jamaica, South Sea Islands, Cochin China, W. Indies, Java, New Hebrides. *Int.* 1699. *Ht.* 1 to 10 ft. *Species* cultivated, about 8. *Leaves*, oval or oblong, small, variegated with purple, white, yellow. Compost, equal parts sandy loam & fibry peat, one part equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* morning & evening, Ap. to Sept. *Prune* into shape, Jan. *Temp*., Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell-glass in temp. 75°, spring or sum.

Phyllocactus.—*Ord.* Cactaceæ. Greenhouse fleshy-stemmed plants with no leaves. *Nat.* Central America & Mexico. *Int.* 1710. *Ht.* 2 to 10 ft. *Species* cultivated, about 9; varieties & hybrids, 19. *Flowers*, rose, white & red; all the year round. *Compost*, two parts light fibrous loam, one part of equal proportions of dried cowdung, leaf-mould, brick rubble, & silver sand. *Position*, well drained pots close to glass in warm greenhouse or sunny window, Sept. to July; outdoors fully exposed to the sun., July to Sept. *Pot*, Ap. *Repot* every three years only. *Firm potting* & good drainage essential. *Water* freely, May to Oct.; keep nearly dry, Oct. to May. *Apply* weak stimulants to plants that have been potted a year once a-week, May to Sept. *Syringe* plants daily, May to Sept. *Shade* from sun for a few weeks after repotting, also for a short time after removal to open air. *Temp.*, Oct. to Ap., 50° to 55°; Ap. to Oct., 60° to 75°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil in pan or shallow box placed in temp. 65° to 75° in spring; by cuttings of stems dried in the sun for a day or two, then inserted singly in two-inch pots filled with light sandy soil, & placed on sunny shelf in greenhouse, Ap. to Sept.

Phyllocladus (Celery-leaved Pine-tree, Adventure Bay Pine).—*Ord.* Coniferæ. Greenhouse orn. leaved evergreen trees. *Nat.* New Zealand & Borneo. *Int.* 1825. *Ht.* 10 to 40 ft. *Species* cultivated, 4. *Compost*, two parts strong loam, one part leaf mould & sand. *Position*, beds, tubs, or pots in light greenhouse. *Pot* or plant, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 60° to 70°. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. 45° to 50° in spring.

Phyllostachys (Whangee Cane)—*Ord.* Graminaceæ. Half-hardy orn.-foliaged grasses. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 4 to 12 ft. *Species* cultivated, 2. *Inflorescence* borne in panicles; sum. *Foliage*, narrow, lance-shaped, green. *Habit* of growth, graceful. *Soil*, rich deep sandy loam. *Position*, moist sheltered borders S. & W. of England & Ireland only. *Protect* in winter with thick covering of dry fern fronds or litter in autn. *Plant*, Ap. or May. *Propagate* by division of plants in Mar. or Ap.

Phyllotænium.—*Ord.* Aroidaceæ. Stove evergreen orn.-foliaged plants. *Nat.* New Grenada. *Int.* 1871. *Ht.* 12 to 18 in. *Species* cultivated, 1; variety 1. *Leaves*, large, arrow-shaped, shining, green, with silvery-white margins. *Compost*, two parts fibrous loam, one part leaf-mould, half a part silver sand. *Position*, well drained pots in shady part of stove. *Close* moist atmosphere highly desirable. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* morning & afternoon daily, Ap. to Sept. *Temp.*, Mar. to Sept.; 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by division of roots, Feb. or Mar.

Phymatodes.—*Ord.* Filices. Stove greenhouse ferns. *Nat.* Malay Archipelago, E. Indies, New Zealand, Ecuador, Brazil. *Int.* 1820. *Ht.* 6 to 18 in. *Species* cultivated, about 15. *Fronds*, once divided, smooth, leathery. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap to Oct. *Moist* atmosphere essential. *No* syringing required.

Temp., Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in temp. of 70° to 80° any time; division of plants at potting time.

Physalis (Ground or Winter Cherry, Alkekeng, Bladder Herb, Red Nightshade, Red Winter Cherry, Strawberry Tomato, Cape Gooseberry, Peruvian Cape Gooseberry).—*Ord.* Solanaceæ. Greenhouse & hardy perennial herbs. *Nat.* Caucasus, China, S. America, Mexico. *Int.* (P. Alkekengi) 1548, (P. peruvianum) 1772. *Flowers*, white, yellow, violet; July. *Fruit*, edible, a globular berry inclosed in an inflated calyx; that of *P. Alkekengi*, scarlet; of *P. peruvianum*, purplish. *Species* cultivated, 2; varieties 2. CULTURE OF HARDY SPECIES (*P. Alkekengi*): *Soil*, rich. *Position*, sunny well drained border. *Plant*, Mar. or Ap. *Lift*, divide, & replant in fresh soil every third year. *Gather* stems bearing fruits in Sept., & dry for winter decorations. CULTURE OF GREENHOUSE SPECIES (*P. peruvianum*): *Soil*, two parts loam, one part well decayed manure or leaf-mould & little sand. *Position*, singly in 5 or 6-in. pots, with shoots trained to sticks & placed close to front of sunny greenhouse, or planted in small beds & shoots trained up back wall. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants, once or twice a week, May to Sept. *Gather* fruit when ripe & fully coloured. *Propagate* hardy species by seeds sown in sunny spot outdoors in Ap.; by division of roots in Mar. or Ap. Greenhouse species by seeds sown $\frac{1}{16}$ in. deep in shallow pots or pans of light soil & placed in temp., 65° to 75°; Feb. or Mar.; cuttings inserted singly in pots of light sandy soil placed in propagator or under bell-glass in temp. 65° to 75°, Jan. to Ap.

Physianthus (White Bladder Flower).—*Ord.* Asclepiadaceæ. Greenhouse evergreen flowering climber. *Nat.* Brazil. *Int.* 1830. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, white, red; downy & bladder-like; July. *Compost*, equal parts sandy loam, fibrous peat, & silver sand. *Position*, cold greenhouse, in large well drained pot or tub with shoots trained up rafters, or in small bed with shoots trained up pillars or walls. *Pot* or plant, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily except when in flower, Mar. to Oct. *Prune* straggling shoots somewhat closely after flowering. *May* be grown outdoors against S. wall in sheltered parts of S. of England. *Propagate* by seeds sown in light sandy soil in pots or pans under bell-glass, or in propagator in temp. 65° to 75° in spring; cuttings of firm side shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass in temp. 55° to 65° in sum.

Physostegia (False Dragon-head).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1683. *Ht.* 1 to 4 ft. *Species* cultivated, 3; varieties 3. *Flowers*, purple or flesh; June to Sept. *Soil*, light ordinary. *Position*, cool partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy soil outdoors in Ap.; cuttings of young shoots inserted in light sandy soil under hand-light or in cold frame, Ap. or May; division of roots, Oct., Nov. or May.

Phyteuma (Horned Rampion).—*Ord.* Campanulaceæ. Hardy perennial herbs. *Nat.* Appenines, S. Europe, Britain, Caucasus. *Int.* (foreign species) 1640. *Ht.* 6 in. to 6 ft. *Species* cultivated, about 12. *Flowers*, blue, white; May to Sept. *Soil*, deep rich loam mixed with limestone grit & old mortar & leaf-mould or peat. *Position*, sunny rockeries for dwarf species; sunny borders for tall kinds. *Plant*, Mar. or Ap. *Lift*, divide, & replant only when overgrown. *Top-dress* dwarf species with a mixture of peat, leaf-mould, lime, & a little old mortar annually in Feb. or Mar. *Water* freely in dry weather. *Propagate* by seeds sown in light sandy soil in shallow boxes in cold frame, Sept. or Oct.; transplanting seedlings in permanent positions, Ap. or May; division of plants in Mar. or Ap.

Phytolacca (Virginian Poke, Dyer's Grapes, Red-ink Plant, Hydrangea-leaved Poke, Pigeon-berry).—*Ord.* Phytolaccaceæ. Hardy herbaceous perennials. *Nat.* S. America, Mexico. *Int.* 1768. *Ht.* 2 to 5 ft. *Species* cultivated, 20. *Flowers*, white, green, succeeded by deep purple berries in autn. *Leaves*, broad, ovate, dark green, changing to rich purple in autn. *Soil*, good ordinary. *Position*, sunny or shady borders in woodlands, banks, or ferneries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seed sown $\frac{1}{8}$ in. deep in sandy soil outdoors in spring or autn.; division of plants in Oct. or Mar.

Picea (Silver Fir, Black Spruce, Servian Pine).—*Ord.* Coniferæ. Hardy evergreen trees. Orn. foliage. *Nat.* Japan, California, Rocky Mountains, N. Europe, Himalayan Mountains, Siberia. *Int.* 1548. *Ht.* 4 to 120 ft. *Species* cultivated, 15; varieties several. *Leaves*, needle-shaped, spirally scattered. *Cones*, erect, cylindrical, thin-scaled. *Soil*, deep rich sandy loam. *Position*, high, dry, open lawns or shrubberies away from sea coast. *Plant*, Oct. to Ap. *No* pruning required. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy loam in temp. of 55° in Mar., or outdoors in Ap.; cuttings inserted in sandy soil in cold frame or in pots under bell glass or hand light outdoors, Aug. or Sept.; layering shoots or branches in autn.; inarching or grafting in Mar.

Pickerel Weed (*Pontederia cordata*)—see Pontederia.

Picotee (*Dianthus caryophyllus*)—see Dianthus.

Piedmont Garlic (*Allium pedemontanum*)—see Allium.

Piedmont Primrose (*Primula pedemontana*)—see Primula.

Pieris.—*Ord.* Ericaceæ. Hardy evergreen flowering shrubs. *Nat.* Japan, N.W. America, Himalayan Mountains, Malay Peninsula. *Int.* 1736. *Ht.* 1 to 20 ft. *Species* cultivated, 6. *Flowers*, white, red, purple, flesh; Ap. to June. OUTDOOR CULTURE; *Soil*, equal parts peat, leaf-mould, or silver sand. *Position*, open sheltered borders, rockeries or bogs. *Plant*, Sept. to Nov., or Mar. *Prune* straggling shoots only moderately after flowering. *Water* freely in dry positions during sum. POT CULTURE: *Soil*, equal parts peat, leaf mould, & fine silver sand. *Position*, well drained pots in cold greenhouse, Nov. to June; in shady position outdoors, June to Nov. *Pot*, Oct. or Nov. *Water* moderately, Nov. to Mar.; freely afterwards. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat in cold frame, Nov. or Mar.; layering shoots in Sept.; division of plants, Oct. or Nov.

Pigeon-berry (*Phytolacca decandra*)—see Phytolacca.

Pigmy Catch-fly (*Silene pumilis* & *S. tenella*)—see Silene.

Pigmy Crocus (*Crocus minimus*)—see Crocus.

Pigmy Daffodil (*Narcissus minimus*)—see Narcissus.

Pigmy Laburnum-tree (*Cytisus Ardoinnii*)—see Cytisus.

Pigmy Rest-harrow (*Ononis minutissima*)—see Ononis.

Pigmy Scotch-fir (*Pinus sylvestris nana*)—see Pinus.

Pigmy Sunflower (*Actinella grandiflora*)—see Actinella.

Pigmy Water-Lily (*Nymphæa pygmæa*)—see Nymphæa.

Pig's-face (*Mesembryanthemum æquilaterale*)—see Mesembryanthemum.

Pilea (Artillery or Pistil Plant, Stingless Nettle).—*Ord.* Urticaceæ Stove perennial herbs. Orn. foliage. *Nat.* W. Indies. *Int.* 1793. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, insignificant; unexpanded buds burst when in contact with moisture & discharge pollen. *Leaves*, minute. *Habit*, graceful, fern-like. *Compost*, equal parts loam, leaf-mould, & silver sand. *Position*, small pots in partially shaded part of stove. *Pot*, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept.; 70° to 80°. *Propagate* by seeds sown on surface of light sandy soil, slightly covered with fine mould & placed in temp. 65° to 75° in spring; cuttings inserted singly in small well drained pots of sandy soil in temp. 65° to 75°, Jan. to May; division of plants, Feb. or Mar.

Pilocereus (Houllett's Wool Cactus, Old Man's Head Cactus).—*Ord.*

Cactaceæ. Greenhouse succulent perennials. *Nat.* Bolivia, Grenada, Mexico, Guatemala. *Int.* date unknown. *Ht.* 1 to 25 ft. *Species* cultivated, 6. *Flowers*, greenish white, rosy purple; very rarely produced. *Stems*, tall, erect, fleshy, ribbed, bearing hairy tubercles furnished with bunches of short spines & clothed at apex with long white hairs. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar, & sand. *Position*, well drained pots in light dry sunny warm greenhouse or stove. *Pot*, Mar. *Water* moderately, Mar. to May, & Sept. to Oct.; copiously, May to Sept. *No* shade required. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans of sandy soil in temp. 75°, Mar., keeping soil moderately moist.

Pilumna.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchids. *Nat.* New Grenada, Columbia. *Int.* 1858. *Species* cultivated, 1; variety 1. *Flowers*, yellow, green, white; very fragrant; winter. *Compost*, equal parts fibrous peat, fresh sphagnum moss, charcoal or clean crocks. *Position*, well drained pots with base of plants slightly elevated above rim in light part of greenhouse close to glass. *Pot*, Feb. or Mar., or immediately new growth begins. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, May to Sept., 55° to 65°; Sept. to Feb., 45° to 55°; Feb. to May, 50° to 60°. *Growing period*, Feb. to Sept.; *resting period*, Sept. to Feb. *Syringe* lightly daily in sum. *Keep* atmosphere constantly moist in sum. by damping floors, stages, etc., several times daily. *Propagate* by division of pseudo-bulbs at potting time.

Pimelea (Rice-flower, Victorian Bird Cherry).—*Ord.* Thymelaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1793. *Ht.* 2 to 4 ft. *Species* cultivated, about 6. *Flowers*, pink, rose, white, borne on points of shoots of previous year's growth; Ap. to July. *Compost*, three parts fibrous peat, one part turfy loam, half a part silver sand. *Position*, well drained pots in light airy greenhouse. *Prune* moderately close immediately after flowering. *Pot* soon as new growth commences. *Firm* potting essential. *Nip* off points of shoots of young plants occasionally to induce bushy growth. *Water* freely, Ap. to Oct.; moderately afterwards. Grow in a moist atmosphere for a few weeks after potting, then gradually harden off & place in an airy greenhouse. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil under bell-glass in temp. 55° to 65°, Feb. to May; cuttings of young shoots, 2 in. long, inserted in compost of one part peat, two parts silver sand under bell-glass in temp. 55° to 65°, Mar. or Ap.

Pimenta (Allspice, Black Cinnamon, Bay-berry-tree, Wild Clove, Pimento Bush).—*Ord.* Myrtaceæ. Stove evergreen flowering trees. *Nat.* W. Indies. *Int.* 1759. *Ht.* 2 to 20 ft. *Species* cultivated, 2. *Flowers*, white, red; May to July. *Leaves*, oval, coriaceous, hairy, aromatic. *Berries*, aromatic. *Compost*, two parts sandy loam, one part leaf-mould, & one part sand. *Position*, well trained pots or beds with branches trained to wall. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Ap.; freely afterwards. *Syringe*, Ap. to Aug. *Prune* straggling shoots moderately in Mar. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 65° to 75° in sum.

Pimento Bush (*Pimento officinalis*)—see Pimento.

Pimpled Blue-Bush (*Ceanothus papillosus*)—see Ceanothus.

Pinanga.—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Java, Sumatra, Penang, Borneo, Philippines. *Int.* 1848. *Ht.* 6 to 20 ft. *Species* cultivated, about 4. *Leaves*, feather-shaped, green. *Compost*, one part loam, two parts peat, half a part silver sand. *Position*, well drained pots in shady lofty stove. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily afterwards. *Place* few crystals of sulphate of iron on surface of soil occasionally to insure deep green foliage. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°.

Propagate by seeds sown ½ in. deep singly in 2-in. pots of sandy loam & peat under bell-glass in temp. 75° to 85° in spring.

Pin Oak (*Quercus palustris*)—see Quercus.

Pin-pillow Cactus (*Opuntia curassavica*)—see Opuntia.

Pincushion Flower (*Scabiosa atropurpurea*)—see Scabiosa.

Pine Apple (*Ananassa sativa*)—see Ananassa.

Pine-apple-flower (*Eucomis punctata*)—see Eucomis.

Pine-apple-leaved Eryngo (*Eryngium bromeliæfolium*)—see Eryngium.

Pine-apple-scented Sage (*Salvia rutilans*)—see Salvia.

Pine Barren Beauty (*Pyxidanthera barbulata*)—see Pyxidanthera

Pine-barren Sand-wort (*Arenaria squarrosa*)—see Arenaria.

Pine Strawberry (*Fragaria chilensis grandiflorus*)—see Fragaria.

Pine-tree (*Pinus austriaca*)—see Pinus.

Pinguicula (Butter-wort, Bog Violet, Earmug Grass, Butter-root, Eccle Grass, Rot-grass, Steep Grass, Yorkshire Sanicle. *Ord.* Lentibulariaceæ. Greenhouse & hardy perennial herbs. *Nat.* Europe (Britain), N. America, Mexico. *Ht.* 3 to 6 in. *Species* cultivated, 4 greenhouse. 5 hardy. *Flowers*, white, yellow, crimson, violet, purple; May to Oct. CULTURE OF GREENHOUSE SPECIES: *Compost*, equal parts fibrous peat, sphagnum moss, & clean crocks. *Position*, well drained pots or shallow pans placed on inverted pots in saucer of water under bell-glass or hand-light in shade. *Pot*, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Admit* air for a few minutes daily every morning by tilting bell-glass or hand-light. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. CULTURE OF HARDY SPECIES: *Soil*, rich loam for *P. grandiflora*; peat & rough gravel for *P. alpina*; moist peat or peaty loam for *P. vulgaris* & *P. lusitanica*. *Plant*, Mar. or Ap. *Water* freely in dry positions in sum. *Mulch* with thick layer of cocoanut-fibre refuse in May. *Propagate* by seeds sown on surface of shallow pans filled with equal parts of sphagnum moss, peat, & sand, placed under bell-glass & kept moist in temp. of 55° to 65°, Feb., Mar., or Ap.; division of plants at potting or planting time.

Pink (*Dianthus plumarius*)—see Dianthus.

Pink Crane's-bill (*Geranium sanguineum lancastriense*) — see Geranium.

Pink-flowered Hawk-weed (*Hieracium incarnatum*)—see Hieracium.

Pink-flowered Kidney-Vetch (*Anthyllis vulneraria rubra*)—see Anthyllis.

Pink-flowered St. John's-wort (*Hypericum virginicum*)—see Hypericum.

Pink-of-my-John (*Viola tricolor*)—see Viola.

Pink-rosette Everlasting (*Rhodanthe Manglesi*)—see Rhodanthe.

Pinus (Fir, Deal Tree, Pine Tree).—*Ord.* Coniferæ. Hardy orn. foliage trees. Evergreen. *Nat.* Britain, U. S. America, N. America, China, California, Greece, Levant, Himalayas, Siberia, Central Europe, Philippines, Japan, Persia, Russia. *Int.* (foreign species) 1596. *Ht.* 5 to 200 ft. *Species* cultivated, about 76; varieties several. *Leaves*, needle-like, long, two to five in a whorl. *Cones*, conical, erect. *Soil*, ordinary for common kinds; deep rich loam for choice sorts. *Position*, singly or in groups in parks: *P. austriaca*, *P. macrocarpa*, *P. ponderosa*, *P. cembra*, *P. excelsa*, *P. Lambertiana*, *P. strobus*; singly on lawns: *P. contorta*, *P. Bungeana*, *P. parviflora*; banks of streams & swamps: *P. rigida*; chalk soils: *P. austriaca*, *P. Laricio*, *P. pinaster*, *P. sylvestris*, *P. excelsa*, *P. insignis*; avenues: *P. austriaca*, *P. excelsa*, *P. strobus*; shelters or screens: *P. austriaca*, *P. Laricio*, *P. pinaster*, *P. excelsa*, *P. cembra*, *P. strobus*; memorial trees: *P. excelsa*, *P. Lambertiana*; seaside: *P. Laricio*, *P. pinaster*, *P. insignis*. *Plant*, Sept. to Nov., Feb. to May. *No* *pruning* required. *Distance* apart for planting for screens 10 to 15 ft. *Propagate* by seeds sown ⅛ in. deep in well drained pots filled with sandy loam, placed in cold greenhouse or frame in Ap., transplanting seedlings outdoors following spring; or ¼ in. deep outdoors in Ap. in bed of moist sandy soil, transplanting seedlings the next year; grafting on common species in Ap.

Pinxter-flower (*Azalea nudiflora*)—see Azalea.

Piony (*Pæonia officinalis*)—see Pæonia.

Pipe Privet (*Syringa vulgaris*)—see Syringa.

Pipe-tree (*Syringa vulgaris*)—see Syringa.

Pipe Vine (*Aristolochia Sipho*)—see Aristolochia.

Piper (Pepper Plant).—Piperaceæ. Stove & greenhouse evergreen shrubs. Orn. foliage. *Nat.* E. Indies, Japan, Columbia, Peru, New Zealand. *Int.* 1748. *Ht.* 9 in. to 6 ft. *Species* cultivated, 24 stove; 2 greenhouse. *Flowers*, green; various. *Leaves*, large, green, or purple, marbled or blotched with white or bronze. CULTURE OF STOVE SPECIES: *Compost*, two parts loam, one part leaf-mould, half a part sand. *Position*, well drained pots in shade. *Pot*, Feb. to Ap. *Prune* slightly into shape, Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* twice daily, Ap. to Sept.; once daily afterwards. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. CULTURE OF GREENHOUSE SPECIES: *Compost* as for stove species. *Position*, well drained pots in partial shade. *Pot*, Mar. or Ap. *Water* moderately, Oct. to Ap.; freely afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 50° to 55°. *Propagate* by cuttings of half-ripened shoots inserted in small pots of sandy soil under bell-glass in temp. of 65° to 75°, Mar. to July.

Pipperidge (*Berberis vulgaris*)—see Berberis.

Piptanthus (Nepaul Laburnum).—*Ord.* Leguminosæ. Hardy evergreen flowering shrub. *Nat.* Himalayas, China. *Int.* 1821. *Ht.* 5 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow; May to June. *Soil*, rich sandy loam. *Position*, warm sheltered shrubberies, S. & S.W. of England; against S. walls, N. of London. *Plant*, Sept., Oct., Ap. or May. *Prune* straggling shoots moderately after flowering. *Propagate* by seeds sown in sandy soil in cool greenhouse or cold frame in spring; cuttings of ripened shoots inserted in small pots of sandy soil under bell-glass or hand-light outdoors, Aug. or Sept.; layering shoots, Sept. or Oct.

Piptatherum.—*Ord.* Graminaceæ. Hardy perennial flowering grass. *Nat.* S. Europe. *Int.* 1778. *Ht.* 18 in. *Species* cultivated, 1. *Inflorescence* borne in large panicles, graceful. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Gather* inflorescence when fully expanded & dry for winter use. *Propagate* by seeds sown outdoors in Ap.; division of plant in Mar.

Pistacia (Pistachio-nut Tree, Turpentine Tree, Mastich Tree).—*Ord.* Anacardiaceæ. Hardy evergreen & deciduous trees. Flowering & orn. foliage. *Nat.* S. Europe, Syria, Canary Islands. *Int.* 1656. *Ht.* 15 to 40 ft. *Species* cultivated, 2 evergreen, 2 deciduous. *Flowers*, small, green; Ap. to July. *Leaves*, unequally feather-shaped, green; reddish in young state. *Soil*, deep rich sandy loam. *Position*, sheltered shrubberies S. & S.W. England; against S. walls, N. of London. *Plant* evergreen species, Sept., Oct., Ap. or May; deciduous species, Nov. to Feb. *Prune* evergreen species, Ap.; deciduous species, Nov. to Feb. *Propagate* by cuttings inserted in sandy soil in cold frame or under hand-light, Sept. or Oct.; layering in Sept.

Pistachio Nut (*Pistacia vera*)—see Pistacia.

Pistia (Tropical Duck Weed, Water Lettuce).—*Ord.* Aroidaceæ. Stove aquatic perennial. *Nat.* Jamaica. *Int.* 1843. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, green, borne on spadix at base of leaves. *Leaves*, wedge-shaped, notched, pale green, hairy. *Soil*, rich loam. *Position*, shallow tub or tank in stove. *Place* 2 in. layer of soil on bottom of tub or tank & plant on surface of water. *Replenish* with tepid water occasionally. *Add* fresh soil annually. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by offsets.

Pisum (Garden Pea, Sugar Pea, Tall Pea, Crown or Mummy Pea).—*Ord.* Leguminosæ. Hardy annuals. Edible seeded & podded vegetables. Orn. flowering climbers. *Nat.* (Garden Pea) S. Europe; (Tall Pea), Iberia. *Int.* (Garden Pea) 1548; (Tall Pea) 1820; (Crown or Mummy Pea) date not known. *Flowers* of garden peas white or red; tall pea, red or purple; mummy pea, purple; May to Oct. CLASSIFICATION OF GARDEN PEAS: (a) Pods with parchment-like lining & round or roundish, smooth seeds. *Frames*: Small, white, thin-skinned seeds; typical var., Sutton's Ringleader. *Prussians*: Small, thin-skinned blue seeds; typical var., Blue Prussian. *Imperials*: Large thick-skinned blue seeds; typical var., Laxton's Fillbasket. *Marrows*: Large, white, thick-skinned seeds; typical var., Giant Marrow. *Green Marrows*: White & olive coloured seeds; typical var., William I. (b) Pods with parchment-like lining & wrinkled, more or less flatish seeds: *Wrinkled White Marrows*: White seeds; typical var., American Wonder. *Wrinkled Green Marrows*: Green seeds; typical var., Ne Plus Ultra. *Wrinkled Blue Marrows*: Blue seeds; typical var., Veitch's Perfection. (c) Pods without parchment-like lining: *Sugar Peas*: Seeds, large & white; typical var., Géant Sans Parchemin. SUB CLASSES: (1) *Earliest Round Seeded*: Typical vars., First Crop, Sangster's No. 1., Day's Early Sunrise; sow Nov. to Feb. to gather May & June. (2) *Second Early Round Seeded*: Typical vars., Hundredfold, Laxton's Supreme, Pride of the Market; sow Jan. to Ap., to gather June & July. (3) *Maincrop Round Seeded*: Typical vars., Blue Scimitar, Laxton's Fillbasket, Sharp's Invincible; sow Feb. to May, to gather July & Aug. (4) *Earliest Wrinkled Marrow-fats*: Typical vars., American Wonder, Alpha, Advancer; sow Mar. or Ap., to gather June & July; also May & June, to gather Aug. & Sept. (5) *Second Early Wrinkled Marrow-fats*: Typical vars., Champion of England, Fortyfold, Telephone; sow Mar. & Ap., to gather June & July; also May & June, to gather Aug. & Sept. (6) *Maincrop Wrinkled Marrow-fats*: Typical vars., British Queen, Ne Plus Ultra, Veitch's Perfection; sow Mar., Ap., & May, to gather July, Aug., & Sept. CULTURE OF GARDEN PEAS: *Soil*, deep, rich calcareous loam, previously trenched three spits deep & containing a thick layer of manure between first & second spit. *Position*, open sunny, protected from N. & N.E. & E. winds. *Suitable Manures*: Solid—Horse dung or peat-moss litter for heavy soils; cow or pig dung for light or sandy soils. Chemical—(1) Kainit 2 lb., nitrate of soda 5 lb., superphosphate of lime 9 lb., half of each to a square rod before sowing, remainder when plants are 6 in. high; (2) nitrate of soda 1½ lb., kainit 1½ lb., superphosphate 1½ lb., salt 3 lb., applied same as No 1; (3) native guano 6 lb. to a square rod applied before sowing, & 6 lb. when plants are 3 in. high; (4) Peruvian guano 1 lb. for square rod before sowing, also 1 lb. when plants are 3 in. high; (5) Beeson's 1 lb. per square yard placed along drill & covered with layer of soil before sowing. Liquid—Horse & cow urine diluted with two-thirds water; Clay's fertilizer 1 oz. to gallon of water; nitrate of soda ½ oz. to gallon, all to be applied when ground is moist only & when pods have just formed. *Direction of rows*: E. to W. or S.E. to N.W. for early sorts; N. to S. for main crops. *Depth of drills*, 2½ to 3 in.; width 6 to 9 in. *Distance apart for sowing the seeds:* 1 in. each way for dwarf sorts; 2 in. for medium kinds; 3 in. for tall vars., arranged in three rows, thus: ⁚ . ⁚ . ⁚ . ⁚ . *Distance between rows*: 18 in. for varieties not exceeding 2 ft. in height; 3 ft. for those not more than 4 ft. high; 6 to 8 ft. for those growing 5 to 6 ft. high. *Sow* earliest sorts on south border, Nov. & Jan., or in 4½ in. pots in temp. 55° in Jan., hardening plants off when 3 in. high in cold frame & planting outdoors in Feb. or Mar.; second early sorts in open garden in Feb. & Mar.; main-crop, Ap. & May; late crops, June & July. *Draw* mould up to each side of row when plants are 6 in. high & place supports to them. *Mulch* to width of 15 in. on each side of row with manure. *Water* copiously in dry weather. *Nip* off points of shoots of tall kinds when 4 ft. high, & again when 5 ft. high. *Protect* seeds from mice by placing them in sweet oil, then rolling in red lead or powdered resin. *Quantity of seed required for a row* 50 *ft. long*: 1 pint. *Seeds* retain their vegetative powers 3 years. *Round-seeded sorts* germinate more quickly than wrinkled kinds. Culture of Sugar Peas (*P. sativum saccharatum*): *Soil*, same as for garden peas. *Sow* in Mar. or Ap., 2½ in. deep in drills 6 in. wide & 6 ft. apart, & earth up & stake in the usual way. *Gather* pods when fully developed & cook like French beans. *Rotation*: Peas may follow potatos, carrots, parsnips, turnips, broccoli, or cabbage; & be succeeded by cabbage, turnips, spinach, or celery. Culture of Tall or Ornamental Flowering Pea (*P. elatum*): *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds 2½ in. deep & 3 in. apart in groups, in Mar. or Ap. *Support* with stakes when 6 in. high. *Remove* pods as they form to ensure continuous flowering. Culture of Mummy Pea (*P. sativum umbellatum*): *Soil*, ordinary. *Position*, open sunny borders. *Sow* seeds ½ in. deep, three or four in a 3-in. pot filled with light soil & placed in warm window or greenhouse in Mar., transplanting seedlings outdoors in May; or 2½ in. deep in open ground in Ap. *Support* with stakes when 6 in. high. *Water* copiously in dry weather *Apply* stimulants occasionally when flowers appear.

Pita-fibre-plant (*Agave americana*)—see Agave.

Pitcairnia.—*Ord.* Bromeliaceæ. Stove perennial herbs. *Nat.* Tropical America. *Int.* 1777. *Ht.* 1 to 3 ft. *Species* cultivated, about 43, *Flowers*, scarlet, yellow, white; all the year round. *Leaves*, narrow or sword-shaped; margins prickly. *Compost*, equal parts fibrous loam, rough peat, & leaf-mould. *Pot*, Mar. *Water* freely always. *Good* drainage essential. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Pitch Pine-tree (*Pinus rigida*)—see Pinus.

Pitcher-plants.—(*Sarracenias* & *Nepenthes*)—which see.

Pittosporum (Parchment-bark, Brisbane Laurel, Queensland Laurel).—*Ord.* Pittosporiaceæ. Greenhouse evergreen & half-hardy flowering shrubs. *Nat.* Africa, Asia, Australasia, Polynesia. *Int.* 1783. *Ht.* 4 to 20 ft. *Species* cultivated, 5 greenhouse, 4 half-hardy. *Flowers*, white, red, purple, yellow; fragrant; Mar. to Aug. Culture of Greenhouse Species: *Compost*, two parts fibrous loam, one part fibrous peat, half a part silver sand. *Position*, pots or tubs in light airy sunny greenhouse. *Pot*, Mar. or Ap. *Prune* straggling shoots moderately immediately after flowering. *Water* moderately, Sept. to Ap.; freely afterwards. *Syringe* occasionally, except when in flower, during sum. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 60° to 70°. Culture of Half-Hardy Species: *Soil*, deep sandy loam. *Position*, well drained border against S. walls S. & S.W. England; pots in cold greenhouse, Oct. to May; sunny border outdoors, May to Oct, N. of London. *Plant*, Mar. or Ap. *Propagate* by cuttings of moderately firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under bell-glass in shade in temp. 55° to 65° in sum.

Placea.—*Ord.* Amaryllidaceæ. Greenhouse bulbs. Deciduous. *Nat.* Chili. *Int.* 1840. *Ht.* 12 to 18 in. *Compost*, two parts sandy loam, one part well decayed cow manure or leaf-mould, & one part coarse sand. *Pot*, Aug. or Sept., placing point of bulb just below surface of soil in a 4½-in. pot or three in a 6-in. pot. *Good* drainage essential. *Plunge* pots to rim in coal ashes or cocoanut-fibre refuse in cold frame, & protect from frost until Dec., then remove to greenhouse. *Water* moderately from time growth begins until leaves decay, then keep quite dry. *Repot* annually in Aug. *Season of growth*, Jan. to Aug.; *season of rest*, Aug. to Jan. *Temp.*, Dec. to Ap., 50° to 55°; Ap. to Aug., 60° to 70°; Aug. to Dec., 35° to 40°. *Propagate* by offsets in Aug.

Plane-tree (*Platanus orientalis*).—see Platanus.

Plantain-leaved Leopard's-bane (*Doronicum plantagineum*)—see Doronicum.

Plantain-Lily (*Funkia grandiflora*)—see Funkia.

Plantain-tree (*Musa paradisiaca*)—see Musa.

Platanus (Plane-tree, American Plane-tree, American Sycamore, Eastern Plane-tree, Oriental Plane-tree, Western Plane-tree).—*Ord.* Platanaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* Western U.S.A., Levant. *Int.* 1548. *Ht.* 60 to 80 ft. *Species* cultivated, 2; varieties several. *Leaves* more or less deeply lobed, coriaceous, pubescent; green or variegated. *Soil,* deep rich moist loam. *Position,* sunny open & sheltered. *Plant,* Oct. to Mar. *Prune* into shape when desirable, Oct. to Feb. *Plenty* of moisture at roots essential; dry soil not suitable. *Propagate* by seeds simply pressed into surface of soil in moist position outdoors in autn.; cuttings of shoots 6 to 8 in. long inserted in moist soil in sheltered position in Nov.; layering shoots in autn. or spring.

Platanus-leaved Maple (*Acer platanoides*)—see Acer.

Platycerium (Elk's-horn Fern, Stag's-horn Fern, Australian Elk's-horn Fern, Wallich's Elk's-horn Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Australia, East Indies, Malay Peninsular. *Int.* 1808. *Species* cultivated, about 6. *Fronds* more or less broad, divided; resembles stag's horn. *Compost,* equal parts fibrous peat & sphagnum moss. *Position,* blocks of wood suspended from roof or sides of greenhouse or stove. *Place* plant on block of wood, cover roots with layer of moss & peat, & secure in position by means of copper wire. *Top-dress* annually with fresh peat & moss in Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately, Sept. to Mar. *Shade* from sun. *Temp.* for stove species, 55° to 65°, Oct. to Mar.; 70° to 80°, Mar. to Oct.; greenhouse species, 45° to 55°, Oct. to Mar.; 60° to 70°, Mar. to Oct. *Propagate* by offsets in Feb. or Mar.

Platycodon (Chinese Bell-flower).—*Ord.* Campanulaceæ. Hardy herbaceous perennial. *Nat.* China, Mandschuria, Japan. *Int.* 1782. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers,* blue; July. *Soil,* ordinary rich. *Position,* sunny well drained borders or rockeries. *Plant,* Oct. to Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy soil in temp. 55°, Mar. or Aug.; cuttings 3 in. long of young shoots, inserted singly in small pots of light sandy soil in temp. 55° in Mar. or Ap.; division of plants in Ap.

Platylobium (Flat Pea).—*Ord.* Leguminosæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1790. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers,* yellow; May to Aug. *Compost,* three parts peat, one part loam & little silver sand. *Position,* well drained pots in light airy greenhouse. *Pot,* Feb. or Mar. *Nip* off points of young shoots in spring to induce bushy growth. *Water* freely, Ap. to Sept.; moderately, Sept. to Ap. *Temp.,* Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy peat in temp. of 55° to 65° in Mar. or Ap.; cuttings inserted in sandy soil under bell-glass in temp. 55°, Ap. to July.

Platyloma.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* N. & S. America, Australia, New Zealand. *Int.* 1823. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Fronds,* narrow, once divided. *Compost,* equal parts loam, leaf-mould, peat, & sand, with a little charcoal & sandstone. *Pot* or plant, Mar. *Position,* well drained pots in shady part of greenhouse or in beds or rockeries in shade. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.,* Sept. to Mar., 45° to 55°; Mar. to Sept., 60° to 65°. *Propagate* by spores sown on surface of sandy peat in shallow pan in temp. 70° to 80°, any time; division of plants in Feb. to Ap.

Platystemon (Californian Poppy, Cream Cups).—*Ord.* Papaveraceæ. Hardy annual. *Nat.* California. *Int.* 1833. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers,* yellow; July & Aug. *Soil,* good ordinary. *Position,* sunny beds, borders, or rockeries. *Sow* seed ⅛ in. deep in patches where required to grow in Ap. *Thin* seedlings 1 to 2 in. apart when ½ in. high. *Water* freely in dry weather. *Mulch* with decayed manure or cocoanut-fibre refuse in June.

Platystigma.—*Ord.* Papaveraceæ. Half-hardy herbaceous perennial. *Nat.* California. *Int.* 1833. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; May. *Soil*, deep sandy loam. *Position*, sunny rockeries or warm well drained borders. *Plant*, Mar. or Ap. *Protect* in winter by placing layer of decayed manure or leaves around base of plant. *Propagate* by seeds sown in box of light sandy soil in cold greenhouse or frame in spring or outdoors in July, transplanting seedlings singly in small pots & keeping in cold frame until following Ap., then planting outdoors.

Plectranthus (Cock's-spur Flower).—*Ord.* Labiatæ. Stove & greenhouse perennial herbs & shrubby plants. Flowering & orn. foliage. *Nat.* Australia, Cape Colony, Madagascar. *Int.* 1774. *Ht.* 9 in. to 3 ft. *Species* cultivated, 2 greenhouse perennials, 2 greenhouse shrubs, 1 stove perennial. *Flowers*, purple, lilac, blue; May to Sept. *Compost*, two parts sandy loam, one part leaf-mould, half a part sand. *Position*, pots close to glass in light part of stove or greenhouse. *Pot*, Feb. to Ap. *Water* freely, Ap. to Oct.; moderately afterwards. *Remove* points of shoots of *P. fruticosus* in spring to induce bushy growth. *Temp.*, for stove species, 55° to 65°, Sept. to Mar.; 70° to 80°, Mar. to Sept.; greenhouse species, 40° to 50°, Oct. to Mar.; 55° to 65°., Mar. to Oct. WINDOW CULTURE OF P. FRUTICOSUS: *Compost* as above. *Position*, light sunny window. *Pot*, Mar. or Ap. *Train* shoots to fan-shaped trellis. *Remove* points of young shoots in Mar. & Ap. if bushy plants are desired. *Water* freely, Ap. to Sept.; moderately afterwards. *Propagate* perennial species by seeds sown 1/16 in. deep in shallow boxes or well drained pots of light sandy soil in temp. 65° to 75° in spring; division of plants, Feb. to Ap. Shrubby species by cuttings inserted singly in small pots filled with sandy soil placed under bell-glass in greenhouse or window, spring or sum.

Pleione (Indian Crocus).—*Ord.* Orchidaceæ. Stove deciduous epiphytal orchids. *Nat.* India. *Int.* 1837. *Species* cultivated, 5. *Flowers*, white, orange, crimson, purple, rose; Oct. to Jan. *Compost*, equal parts fibrous peat & loam, half a part each of finely chopped sphagnum moss & silver sand. *Position*, 5 or 6-in. pots or shallow pans, three parts filled with drainage, fully exposed to light & sun in warm greenhouse whilst growing, cool house when at rest. *Pot* directly after flowering, removing old compost from roots & shortening latter to 2 in. *Arrange* pseudo-bulbs 2 in. apart on surface raised 1 in. above rim in centre, & cover surface with sphagnum moss. *Place* plants on shelf in temp. 45° to 55° until Ap., then in temp. 65° to 75° until Sept., when replace in temp. 45° to 55°. *Water* freely when new leaves are half developed until Aug., then gradually discontinue, withholding it altogether from Sept. till new leaves are half-grown. *Apply* weak stimulants twice a week, May to Aug. *Growing period*, Dec. to Aug.; *resting period*, Sept. to Dec. *Propagate* by pseudo-bulb offsets in Nov.

Pleopeltis.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Borneo, Malay Archipelago, Java, W. Indies, Brazil, Polynesia. *Int.* 1812. *Ht.* 6 to 12 in. *Species* cultivated, about 15. *Fronds* entire or once divided. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap. to Oct. *Moist* atmosphere essential. *No* syringing required. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in temp. of 70° to 80° any time; division of plants at potting time.

Pleroma (Peruvian Glory Bush).—*Ord.* Melastomaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1816. *Ht.* 3 to 15 ft. *Species* cultivated, about 11. *Flowers*, violet, purple; sum. & winter. *Compost*, two parts turfy loam, one part peat, & one part charcoal & sand. *Position*, well drained pots, tubs, or beds, with shoots trained to trellis, or up pillars, rafters, or walls. *Pot*, or plant, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* stimulants once a week, May to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Propagate* by cuttings of firm side shoots 3 in. long inserted singly in small pots of sandy soil, under bell-glass or in propagator, in temp. 70° to 80°, Feb. to Sept.

Pleurisy-root (*Asclepias tuberosa*)—see Asclepias.

Pleurothallus.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* W. Indies, Tropical America. *Int.* 1826. *Ht.* 3 to 6 in. *Species* cultivated, about 5. *Flowers*, purple, green, yellow, red, crimson, brown; all the year round. *Compost*, sphagnum moss only. *Position*, small blocks of wood suspended from roof. *Place* layer of moss on block, then roots of plant, then another layer of moss, & secure with copper wire. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* blocks 2 or 3 times daily in sum.; once daily in winter & autn. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 60°. *Propagate* by division, Feb. to Mar.

Plum-coloured Christmas Rose (*Helleborus colchicus*)—see Helleborus.

Plum Fir (*Podocarpus andina*)—see Podocarpus.

Plum-fruited Juniper (*Juniperus drupacea*)—see Juniperus.

Plum Grape (*Vitis Labrusca*)—see Vitis.

Plum-leaved Thorn (*Cratægus prunifolia*)—see Cratægus.

Plum-tree (*Prunus domestica*)—see Prunus.

Plumbago (Leadwort, Cape Leadwort).—*Ord.* Plumbaginaceæ. Stove & greenhouse evergreen flowering shrubs & hardy herbaceous perennials. *Nat.* Cape of Good Hope, E. Indies, S. America, Mexico, S. Europe, China. *Int.* 1596. *Ht.* 1 to 15 ft. *Species* cultivated, 3 greenhouse, 4 stove, 3 hardy herbaceous; vars. 2. *Flowers*, white, blue, red, brown, violet; Ap. to Dec. CULTURE OF STOVE SPECIES (*P. rosea, etc.*) *Compost*, equal parts fibrous peat & leaf-mould, half a part each loam & sand. *Position*, pots, shoots trained to stakes or balloon trellis, or in borders, shoots trained to wall in light part of stove. *Pot*, Feb. to Ap. *Prune* shoots moderately in Jan. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Shade* from sun. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. CULTURE OF GREENHOUSE SPECIES (*P. capensis, etc.*): *Compost*, two parts fibrous loam, half a part each of peat & silver sand. *Position*, pots, shoots trained to stakes or trellis; borders with shoots trained up rafters, pillars, or walls in light part of house. *Pot* or plant, Feb. or Mar. *Prune* shoots to within 1 in. of base immediately after flowering; flowers borne on points of shoots of current year's growth. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; very little afterwards. *Syringe* daily until flowering begins. *Apply* weak stimulants twice a week during flowering period. *Shade* only from very bright sun. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. CULTURE OF HERBACEOUS SPECIES (*P. Larpentæ, etc.*): *Soil*, ordinary light or sandy loam. *Position*, sunny rockery, margins of raised beds, or in masses in well drained borders. *Plant*, Nov., Mar. or Ap. *Water* freely in very dry weather. *Mulch* with decayed manure in Mar. *P. capensis* may be grown on sunny rockeries outdoors in sum. *Plant* out June, lift Sept. *Propagate* by seeds sown on surface of sandy peat & slightly covered with fine sandy soil in temp. 65° to 75° in Feb. or Mar.; cuttings of side shoots, 2 to 3 in. long, inserted singly in 2 in.-pots of sandy peat in temp. 60° to 70°, Feb. to Aug.; herbaceous species by division of roots, Nov. to Ap.

Plume-like Japan Cypress (*Retinospora plumosa*)—see Retinospora.

Plume Poppy (*Bocconia cordata*)—see Bocconia.

Plumiera (Frangipanni Plant, Jasmine Mango, Red Nosegay Tree).—*Ord.* Apocynaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical America. *Int.* 1690. *Ht.* 5 to 10 ft. *Species* cultivated, 8. *Flowers*, pink, white, yellow, red; fragrant; May to Sept. *Compost*, two parts sandy loam, one part fibry peat, half a part silver sand. *Position*, well drained pots in light stove. *Pot*, Feb. to Ap. *Prune* straggling shoots moderately close immediately after flowering. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar., & until flowers appear. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by cuttings of ripe shoots, 2 to 3 in. long, inserted in small pots filled with sand under bell-glass in temp. 65° to 75° in Feb.

Plumy Bleeding Heart (*Dicentra eximia*)—see Dicentra.

Poa (Variegated Meadow Grass).—*Ord.* Gramminaceæ. Hardy perennial flowering & orn. foliaged grass. *Nat.* Europe (Britain). *Ht.* 6 in. to 3 ft. *Species* cultivated, 2. *Flowers* of *P. palustris* purplish or violet; borne in panicles. *Leaves* of *P. trivalis albo-vittata* erect, soft green & margined with white. *Soil*, ordinary. *Position*, margins of streams & ponds for *P. palustris*; edgings to sunny beds or borders, or in clumps in borders for *P. t. albo-vittata*. *Plant*, Oct., Nov., Mar. or Ap. Pot Culture of P. t. albo-vittata: *Compost*, two parts good ordinary soil, one part leaf-mould, half a part sand. *Position* in 4 or 5-in. pots in cold or cool greenhouse or window. *Pot*, Mar. or Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Repot* & divide annually. *Propagate* by division of plants, Mar. or Ap.

Pocock's Bladder Senna (*Colutea Pococki*)—see Colutea.

Pod Fern (*Ceratopteris thalictroides*)—see Ceratopteris.

Podocarpus (Japanese Laurel, Totara Pine).—*Ord.* Corniferæ. Hardy & half-hardy evergreen trees. Orn. foliage. *Nat.* Chili, Cape of Good Hope, China, Japan, Tasmania, Nepaul, Australia. *Int.* 1774. *Ht.* 40 to 200 ft. *Species* cultivated, 3 hardy; 12 half-hardy. *Leaves*, linear, more or less long, leathery deep green. Culture of Hardy Species: *Soil*, good, deep loam, well drained. *Position*, sunny sheltered lawns. *Plant*, Oct., Nov., Mar. or Ap. Culture of Half-Hardy Species: *Compost*, two parts loam, one part leaf-mould. *Position*, pots or tubs in light airy greenhouse. *Pot* or plant, Mar. or Ap. *Water* freely, May to Sept.; moderately afterwards. *Temp.*, Sept. to Ap., 45° to 55°; Ap. to Sept., 55° to 65°. *Propagate* by cuttings of firm young shoots inserted in small pots of sandy loam under bell-glass in temp. 60° to 70°, sum.

Podolepis.—*Ord.* Compositæ. Hardy annuals & half-hardy perennials. *Nat.* Australia. *Int.* 1803. *Ht.* 1 to 3 ft. *Species* cultivated, 2 annuals; 1 half-hardy perennial. *Flowers*, yellow, purple, lilac, white; June to Aug. Outdoor Culture of Annual Species: *Soil*, ordinary. *Position*, sunny well drained beds or borders or rockeries. *Sow* seeds $\frac{1}{16}$ in. deep in well drained pots of light soil in temp. of 55° to 65° in Mar., transplanting seedlings outdoors in flowering position, end of May; or sow outdoors in sunny position end of Ap. where required to grow & flower, thinning seedlings to 3 in apart when $\frac{1}{2}$ in. high. Pot Culture of Annual Species: *Compost*, equal parts sandy loam, leaf-mould, & sand. *Fill* 5-in. pots to within $\frac{1}{2}$ in. of rim moderately firm with above compost; sow seeds thinly in Mar., & cover with sprinkling of fine soil. *Place* pots in temp. of 55° till seedlings have formed 3 or 4 leaves, when remove to cool greenhouse or cold frame. *Thin* seedlings to 1 in. apart. *Water* moderately until plants are 3 in. high, then freely. Culture of Half-Hardy Perennial: *Soil*, sandy loam. *Position*, sunny rockery or borders, May to Sept. *Lift* & repot in Sept., & store away in greenhouse until following May. *May* be successfully treated as an annual also. *Propagate* half-hardy perennial species by division of plants in spring.

Podophyllum (Mexican Mandrake, May Apple, Podophyllum Plant, Raccoon-berry, Wild Duck-food, Wild Lemon, Himalayan May-flower).—*Ord.* Berberidaceæ. Hardy herbaceous perennials. *Nat.* India, N. America. *Int.* 1664. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, white; May. *Leaves*, large, shield-shaped; divided, ornamental. *Soil*, moist peat. *Position*, partially shaded borders, woods, marshes, or bog gardens. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap.

Poet's Laurel (*Laurus nobilis*)—see Laurus.

Poet's Narcissus (*Narcissus poeticus*)—see Narcissus.

Poinciana (Crimson Thread-flower, Barbadoes Pride, Royal Peacock flower).—*Ord.* Leguminosæ. Stove evergreen trees. Flowering & orn. foliage. *Nat.* W. Indies, Madagascar. *Int.* 1691. *Ht.* 10 to 30 ft. *Species* cultivated, 2. *Flowers*, orange, scarlet; sum. *Leaves*, fern-like, green, graceful. *Compost*, two parts peat or loam, one part leaf-mould, half a part silver sand. *Position*, pots in light part of stove or outdoors during July & Aug. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds sown in light sandy soil in temp. of 75° to 85° in spring; cuttings of short young shoots inserted singly in small pots filled with pure sand under bell-glass in temp. 75° to 85° in sum.

Poinsettia (Mexican Easter Flower, Mexican Flame Leaf, Lobster Flower).—*Ord.* Euphorbiaceæ. Stove evergreen flowering plants. *Nat.* Mexico. *Int.* 1834. *Ht.* 1 to 4 ft. *Species* cultivated, 1; varieties several. *Flowers*, insignificant. *Bracts*, scarlet, white; winter. *Foliage*, green or variegated with creamy white. *Compost*, four parts fibrous loam, one part decayed cow manure, & half a part silver sand. *Position*, pots or beds with shoots trained to back wall of stove. YOUNG PLANTS: *Place* old plants in temp. 65° to 75° in May. Remove young shoots when 2 to 3 in. long, insert singly in 2-in. pots filled with sandy loam & peat, & plunge to the rims in bottom heat of 85°, under a bell-glass or in propagator. When rooted, place singly in 4-in. pots, plunge again in bottom heat for a few days, then remove to shelf near glass. As soon as well rooted, transfer to 6 or 8 in. pots, keep near glass for week or so, then gradually harden, place in cold sunny frame until Sept., when remove to temp. 55°. *Shade* from mid-day sun when in cold frame. *Water* freely. *Syringe* twice daily. *Ventilate* freely on fine days. *Transfer* plants into temp. 60° to 65° end of Sept. *Water* moderately. *Apply* stimulants twice a week. After flowering remove to a temp. of 40° to 45°, keep roots quite dry & store pots on their side under staging. OLD PLANTS: *Prune* shoots, unless required for producing cuttings, to second latent bud or eye from their base, end of Ap. When new shoots form 1 in. long, turn plants out of their pots, remove old soil from roots, cut off the straggling ends of latter, & repot in pots just large enough to take roots and little compost. *Place* in temp. 65° to 75° from pruning time. *Repot* into larger size when small pots are filled with roots. *Place* in cold sunny frame or pits during July & Aug. *Water* & syringe freely. *Remove* to temp. 55° to 60°, Sept.; 60° to 70°, Oct. onwards. *Apply* stimulants twice a week Oct., until bracts are fully developed, then cease. After flowering, treat as advised for young plants. BEDS: *Compost*, as above. *Plant*, July. *Train* the shoots thinly to wall. *Water* freely while growing; after flowering keep quite dry. *Prune* shoots to within one latent bud of their base, end of Sept. *Temp.*, Ap. to Sept., 65° to 75°; Sept. to Ap., 55° to 60°. *Average height* of a well-grown young plant 12 to 18 in. *Average diameter* of a well-grown head of bracts 10 to 15 in. *Suitable manures*: Half oz. guano or Clay's fertilizer to 1 gallon of water, or teaspoonful of Standen's manure sprinkled on surface of soil once in ten days.

Pointed-flowered Adam's Needle (*Yucca acuminata*)—see Yucca.

Pointed-leaved Cotoneaster (*Cotoneaster acuminata*)—see Cotoneaster.

Pointed-leaved White Alder (*Clethra acuminata*)—see Clethra.

Poison Ash (*Chionanthus virginica*)—see Chionanthus.

Poison Bay Tree (*Illicium Floridanum*)—see Illicium.

Poison Elder (*Rhus venenatum*)—see Rhus.

Poison Oak (*Rhus toxicondendron*)—see Rhus.

Poivrea.—*Ord.* Combretaceæ. Stove evergreen climbers. *Nat*

Madagascar. *Int.* 1818. *Species* cultivated, 1. *Flowers*, scarlet; June to Dec. *Compost*, two parts loam, one part peat & sand. *Position*, pots, tubs, or borders in plant stove, shoots trained to pillars or roof. *Pot*, Mar. *Prune* side shoots to within 2 in. of base after flowering & cut away all weak ones. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Aug. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of side shoots 3 in. long, removed with slight portion of stem attached, & inserted in well drained pot of sandy soil in temp. 85° in sum.

Poke (*Phytolacca decandra*)—see Phytolacca.

Poke Milk-weed (*Asclepias phytolaccoides*)—see Asclepias.

Polemonium (Jacob's Ladder, Dwarf J. L., Creeping J. L., Dense-flowered J. L., Richardson's J. L., Greek Valerian, Charity).—*Ord.* Polemoniaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Siberia, Himalayas, Rocky Mountains, Dahuria, Mexico. *Int.* (foreign species) 1758. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, blue, purple, white; Ap. to Aug. *Soil*, good ordinary or deep rich well drained loam. *Position*, open sunny borders for *P. cæruleum* & vars.; sunny well drained rockeries for other species. *Plant*, Oct., Nov., Mar. or Ap. *Cut* off flower stems immediately after flowering. *Top-dress* annually in spring with well decayed manure or leaf-soil. *Propagate P. cæruleum* by division of plants in Oct. or Nov.; other species by division in Mar. or Ap.

Polianthes (The Tuberose).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plant. Flowering. *Nat.* Mexico. *Int.* 1629. *Ht.* 3 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; fragrant; double; autn. & winter. *Compost*, two parts fibrous loam, one part of equal proportions of leaf-mould, decayed manure & coarse silver sand. *Pot*, African kinds in Oct., Nov. & Dec., to flower following autn.; American or Pearl varieties in Jan., Feb., Mar. & Ap., to flower following winter & spring. Plant bulbs about two-thirds of their depth singly in a 5-in. pot, or three in a 6-in. size. *Pot* firmly. *After treatment*: (a) *Plunge* pots to their rims in bottom heat, 75° to 85°, & give one application of water only until growth begins, then remove to a shelf near the glass in temp. 55° to 65°, & remove to temp. 50° to 55° when in bloom. (b) *Place* pots on bed of coal ashes in cold frame, cover with 4 in. cocoanut-fibre refuse, & give no water until growth begins. After this, remove the fibre refuse, water moderately, & transfer most forward plants to the greenhouse. (c) *Pot* bulbs in Ap., plunge pots just above rim in a sunny spot in garden, keep moderately moist, lift pots in Sept. or Oct., & place in greenhouse to flower. *Water* freely when in full growth. *Syringe* foliage frequently. *Apply* stimulants (½ oz. guano or Clay's fertilizer) once a week when growing freely. *After* flowering, bulbs of no further use. OUTDOOR CULTURE: *Soil*, ordinary rich. *Position*, warm sunny border. *Plant* bulbs 3 in. deep & 6 in. apart, Mar. to Ap., to flower in Aug. & Sept. *Plant* fresh bulbs annually. *Propagate* by offsets.

Polished Saxifrage (*Saxifraga polita*)—see Saxifraga.

Polyanthus (*Primula elatior*)—see Primula.

Polyanthus Daffodil (*Narcissus tazetta*)—see Narcissus.

Polyanthus Narcissus (*Narcissus tazetta*)—see Narcissus.

Polybotrya.—*Ord.* Filices. Stove evergreen ferns. *Nat.* W. Indies, Brazil, Peru, Ecuador, Mexico, Luzon. *Int.* 1823. *Ht.* 2 ft. *Species* cultivated, about 12. *Fronds*, twice or thrice divided. *Compost*, equal parts peat, loam & leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely, spring & sum.; moderately other times. *Temp.*, stove species, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°; greenhouse species, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 50°. *Propagate* by division of roots at potting time, or by spores sown on surface of pans filled with fine peat, & placed in temp. 85° any time.

Polygala (Milk-wort).—*Ord.* Polygalaceæ. Hardy herbaceous perennials, greenhouse & hardy evergreen flowering shrubs. *Nat.* Europe, S. Africa, N. America. *Int.* 1658. *Ht.* 6 in. to 3 ft. *Species* cultivated, 1 hardy evergreen shrub (*P. chamæbuxus*); 2 perennials (*P. paucifolia* & *P. senega*); 2 greenhouse evergreens (*P. myrtifolia grandiflora* & *P. oppositifolia*). *Flowers*, purple, yellow, & white, Mar. to Sept. Culture of Hardy Evergreen Shrub: *Soil*, sandy peat. *Position*, sunny border or rockery. *Plant*, Oct., Nov. or Ap. *No pruning* required. Culture of Perennial Species: *Soil*, ordinary. *Position*, dryish sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut down* flowering stems in Oct. *Lift* & replant every three or four years. Culture of Greenhouse Species: *Compost*, two parts fibrous peat, one part silver sand. *Position*, well drained pots in cool, airy greenhouse. *Pot*, Feb. or Mar. *Prune* straggly shoots only into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *No stimulants* required. *Shade* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* perennials by division in Mar. or Ap.; hardy evergreen species by cuttings inserted in sandy peat under hand-light or in cold frame in autn.; or by suckers removed in Sept.; greenhouse species by cuttings of young shoots inserted in small pots of sandy peat under bell-glass in temp. 55° to 65° in spring.

Polygonatum (Solomon's Seal, David's Harp, Fraxinell, Ladder-to-Heaven, Lady's Seal, Lily of the Mountain).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* (Solomon's Seal) Europe (Britain); others, Japan, India, Siberia, & N. America. *Ht.* 2 to 4 ft. *Species* cultivated, 8. *Flowers*, white, rose, lilac & green; Ap. to June. *Soil*, ordinary light mould. *Position*, partially shaded beds, borders, or woodlands. *Plant*, Oct., Nov. or Mar. *Top-dress* annually with decayed manure in Mar. *Apply* stimulants occasionally in sum. Pot Culture of Solomon's Seal: *Pot* roots in ordinary light soil in 6 or 8 in. pots in Nov. *Cover* with cocoanut-fibre refuse outdoors or in frame until growth begins, then remove to heated or cold greenhouse to flower. *Water* freely. *Propagate* by division of roots in Oct., Nov. or Mar.

Polygonum (Willow Grass, Knob Grass, Knob Weed, Persicary).—*Ord.* Polygonaceæ. Hardy annuals, herbaceous perennials, greenhouse evergreen shrubs. *Nat.* Australia, China, India, Alps, Siberia, Mexico, N. America, Sachalin Islands, Britain. *Int.* (foreign species) 1640. *Ht.* 6 to 8 ft. *Species* cultivated, 1 annual; 11 hardy perennials; 3 greenhouse. *Flowers*, red, white, purple & rose; sum. *Habit*, graceful. Culture of Annual Species (*P. orientale*): *Soil*, ordinary. *Position*, sunny well drained borders. *Sow* seeds $\frac{1}{16}$ in. deep in light soil in temp. 65° in Mar., planting seedlings outdoors in June; or sow in open border in Ap. *Water* freely in dry weather. *Apply stimulants* during flowering period. Culture of Perennial Species (*P. cuspidatum*, *P. sachalinense*, *P. vacciniifolium*, etc.): *Soil*, good rich ordinary. *Position* of *P. cuspidatum* & *P. sachalinense* in large sunny or shady moist borders, as isolated specimens on lawns, or on margins of ponds. *P. vacciniifolium* in ordinary sunny borders or on rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure annually in Mar. *Apply stimulants* occasionally during July & Aug. *Water* copiously in dry weather. Culture of Greenhouse Species (*P. capitatum*, etc.): *Compost*, two parts loam, one part peat, half a part silver sand. *Pot*, Mar. *Position*, well drained pots in cool greenhouse. *Water* copiously, Ap. to Sept.; moderately afterwards. *Shade* from sun. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. *Repot* annually. *Propagate* perennials by seeds as advised for annuals, or by division of roots in Oct. or Mar.; greenhouse species by cuttings inserted in sandy peat under bell-glass in temp. 65° to 75° in spring.

Polypodium (Common Polypody, Alpine Polypody, Lime-stone Polypody, Welsh Polypody, Oak Fern, Beech Fern).—*Ord.* Filices. Stove, greenhouse & hardy ferns. Evergreen & deciduous. *Nat.* Europe (Britain), Tropical America, W. Indies, New Zealand, China, S. America, India. *Int.*

(foreign species) 1793. *Species* cultivated, 5 stove, 10 greenhouse, 5 hardy. CULTURE OF STOVE AND GREENHOUSE SPECIES: *Compost*, equal parts loam, peat, leaf-mould, & silver sand. *Pot*, Feb. to Ap. *Position*, pots, baskets, or rock beds. *Shade* from sun. essential. *Moist* atmosphere, Feb. to Sept.; moderately moist afterwards. *No* syringing required. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *No* stimulants. *Temp.* for greenhouse species, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°; stove species, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. CULTURE OF HARDY SPECIES; *Soil*, equal parts fibry peat, decayed turfy loam, leaf-mould, & coarse silver sand for *P. vulgare* & vars.; equal parts peat, loam, coarse sand & small lumps of sandstone for *P. dryopteris* (Oak Fern) & *P. phegopteris* (Beech Fern); two-thirds sandy fibry loam, one-third pounded limestone for *P. Robertianum*. *Position*, shady fernery, bank, or rockery for *P. vulgare*; partially shaded dryish rockery for *P. dryopteris* & *P. phegopteris*; dry partially shady rockery for *P. Robertianum*; other species anywhere in shade in ordinary soil. *Plant*, Ap. *Water* in dry weather. *Top-dress* annually in Ap. with the special soils described above. POT CULTURE OF HARDY SPECIES: *Composts* as above. *Pot*, Mar. *Position*, shady, airy cold greenhouse, room or frame *Water* evergreen kinds freely in sum., moderately at other times; deciduous kinds freely whilst growing; occasionally after foliage dies down. *Repot* annually. *Propagate* by spores sown on surface of shallow pan or box filled with fine sandy peat, covered with pane of glass & placed in temp. 65° to 75°; division of roots in Mar. or Ap.

Polypody (*Polypodium vulgare*)—see Polypodium.

Polystichum (Prickly & Soft Shield Ferns).—*Ord.* Filices. Greenhouse & hardy evergreen ferns. *Nat.* Europe (Britain), N. America, East Indies, Assam, Japan, Madeira, W. Indies, Luzon, Columbia, Brazil, Mauritius, Tasmania, New Zealand. *Int.* (foreign species) 1793. *Ht.* 9 in. to 4 ft. *Species* cultivated, about 23; varieties many. *Fronds*, feather-shaped. CULTURE OF GREENHOUSE SPECIES: *Compost*, two parts peat, one part loam, silver sand, & charcoal. *Position*, well drained pots or beds in shady greenhouse. *Pot* or plant, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept., 55° to 65°. OUTDOOR CULTURE OF HARDY SPECIES: *Compost*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. INDOOR CULTURE OF HARDY SPECIES: *Compost*, equal parts peat & loam, half-part sand. *Position*, pots in cold frame, greenhouse or dwelling room. *Shade* from sun essential. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.

Pomegranate-tree (*Punica Granatum*)—see Punica.

Pontederia (Pickerel Weed).—*Ord.* Pontederiaceæ. Hardy aquatic perennials. *Nat.* N. America. *Int.* 1579. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, blue, white, green; June to Oct. *Soil*, rich loam. *Position*, shallow ponds or tanks, containing water, 6 to 12 in. in depth. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots any time in spring.

Pontic Azalea (*Azalea pontica*)—see Azalea.

Pontic Daphne (*Daphne pontica*)—see Daphne.

Pontic Milk-Vetch (*Astragalus ponticus*)—see Astragalus.

Pontic Rhododendron (*Rhododendron ponticum*)—see Rhododendron.

Poor-man's Rhubarb (*Thalictrum flavum*)—see Thalictrum.

Pope's-head (*Melocactus communis*)—see Melocactus.

Poplar-leaved Fig-tree (*Ficus religiosa*)—see Ficus.

Poplar-leaved Stone-crop (*Sedum populifolium*)—see Sedum.

Poppy Anemone (*Anemone coronaria*)—see Anemone.

Poppy-Mallow (*Callirrhoë involucrata*)—see Callirrhoë.

Poppy Oil-plant (*Papaver somniferum*)—see Papaver.

Populus (Aspen-tree, Cotton Wood, Abbey, Abele-tree, Poplar).—*Ord.* Salicaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* Europe (Britain), N. America, Egypt, Caucasus, Turkestan, China, Siberia. *Int.* (foreign species) 1692. *Ht.* 30 to 80 ft. *Species* cultivated, 10; varieties many. *Flowers*, catkin-shaped; Mar. & Ap. *Leaves*, roundish, lobed, toothed, green, whitish beneath. *Soil*, ordinary moist. *Position*, margins of ponds, lakes, rivers, moist shrubberies or woods. P. monilifera (Black Italian Poplar) & P. fastigiata (Black Poplar), good trees for forming screens in town or suburban gardens. *Plant*, Oct. to Feb. For screens, plant 4 to 6 ft. apart. *Prune*, Nov. to Feb. *Dry* soils not suitable. *Propagate* by seeds sown ⅛ in. deep in ordinary soil in moist border in autn.; cuttings of firm shoots, 8 in. long., inserted in ordinary soil outdoors in Oct. or Nov.; layering shoots in Oct.; suckers, Oct. to Feb.; weeping kinds by grafting on common poplars in Mar.

Portenschlag's Bell-flower (*Campanula Portenschlagiana*)—see Campanula.

Portlandia.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Jamaica. *Int.* 1775. *Ht.* 5 to 12 ft. *Species* cultivated, 30. *Flowers*, scarlet, white; May to Sept. *Compost*, equal parts fibrous loam & leaf-mould & half a part silver sand. *Pot*, Feb. or Mar. *Position*, well drained pots in partially shaded part of stove. *Prune* into shape immediately after flowering. *Water* copiously, Ap. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Oct.; once afterwards. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell glass in temp., 75° to 85° in sum.

Port Orford Cedar (*Cupressus Lawsoniana*)—see Cupressus.

Portugal Broom (*Genista lusitanica*)—see Genista.

Portugal Cypress (*Cupressus pendula*)—see Cupressus.

Portugal Laburnum-tree (*Cytisus albus*)—see Cytisus.

Portugal Laurel (*Cerasus lusitanica*)—see Cerasus.

Portugal Myrtle (*Myrtus communis lusitanica*)—see Myrtus.

Portugal Quince-tree (*Cydonia vulgaris lusitanica*)—see Cydonia.

Portugal Wood Daisy (*Bellis sylvestris*)—see Bellis.

Portulaca (Purslane Sun Plant).—*Ord.* Portulacaceæ. Hardy & half-hardy annual flowering & edible-leaved plants. *Nat.* (Sun Plant) Chili; (Purslane) S. Europe. *Int.* (Purslane) 1582; (Sun Plant) 1827. *Ht.* 3 to 6 in. *Species* cultivated, 1 hardy, 1 half-hardy. *Flowers*, rose, crimson, yellow, white; June to Sept. *Leaves* of Purslane form an excellent summer salading. CULTURE OF HALF-HARDY ANNUAL SPECIES (*P. grandiflora* & vars.): *Soil*, good ordinary. *Position*, sunny rockeries, raised beds or borders. *Sow* seeds thinly on surface of light sandy soil in well drained pot, box, or pan, lightly cover with fine soil & place in temp. 65° in Mar. *Transplant* seedlings when three leaves form singly into 2-in. pots, gradually harden off, & plant outdoors end of May. *Water* in dry weather. *Plant* 3 in. apart each way. POT CULTURE: *Compost*, equal parts loam, leaf-mould, & coarse silver sand. *Raise* plants from seeds as advised above. *Transplant* seedlings 1 in. apart in 5-in. pots, well drained & filled with above compost. *Grow* near glass in temp. 55° to 65°. *Water* freely. *Apply* weak stimulants when in flower. CULTURE OF PURSLANE (*P. oleracea*): *Soil*, light, rich ordinary. *Position*, sunny well drained borders. *Sow* seeds thinly broadcast, middle of Ap., lightly rake in and keep well watered. To ensure a succession, sow at intervals of a month up to Aug. *Gather* shoots when 2 to 3 in. long, cutting them off close to the ground.

Posoqueria.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs.

Nat. Brazil, French Guiana, Caracas. *Int.* 1815. *Ht.* 5 to 20 ft. *Species* cultivated, 7. *Flowers*, white, crimson, pink; fragrant; Ap. to Aug. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom) Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.

Post Oak (*Quercus obtusiloba*)—see Quercus.

Potato (*Solanum tuberosum*)—see Solanum.

Potato Oil-plant (*Solanum tuberosum*)—see Solanum.

Potato Onion (*Allium cepa aggregatum*)—see Allium.

Potato Vine (*Ipomœa pandurata*)—see Ipomœa.

Potentilla (Cinquefoil).—*Ord.* Rosaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. America, Himalayas, Siberia, California. *Int.* (foreign species) 1640. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 27. Double potentillas are hybrids between *P. insignis* & *P. argyrophylla atrosanguinea*. *Flowers*, white, yellow, crimson, scarlet; Mar. to Sept. *Soil*, ordinary deep rich sandy. *Position*, sunny rockeries for dwarf species (*P. alba*, *P. alpestris*, *P. ambigua*, *P. calabria*, *P. nitida*, & *P. pyrenaica*); sunny borders for tall kinds (*P. argyrophylla atro-sanguinea* & vars., *P. fruticosa*, etc.) *Plant*, Oct., Nov., Mar. or Ap. *Mulch* tall kinds with decayed manure annually in Mar. *Water* copiously in dry weather. *Apply* stimulants occasionally during flowering period. *Lift*, divide, & replant border kinds in fresh soil every 3 or 4 years. *Propagate* by seeds sown $\frac{1}{16}$ in. deep. in shallow pans or boxes of light sandy soil in temp. 55° to 65°, Mar., transplanting seedlings outdoors in May or June; or similar depth in partially shaded border outdoors in Ap.; division of roots, Oct., Nov., Mar. or Ap.

Poterium (Burnet).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green, purple; sum. *Leaves* used for flavouring soups, salads, & wines. *Soil*, ordinary light. *Position*, sunny dryish bed or border. *Plant*, 6 in. apart in rows 8 in. asunder, Feb. *Water* freely in dry weather. *Remove* flower stems directly they appear. *Roots* to be lifted & replanted annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills 8 in. apart, Mar., Ap. or Sept., thinning seedlings when 2 in. high, 6 in. apart.

Pot-herb Thyme (*Thymus vulgaris*)—see Thymus.

Pothos.—*Ord.* Aroideæ. Stove evergreen climbing shrubs. Orn. foliage. *Nat.* Solomon Islands, Borneo, China. *Int.* 1821. *Ht.* 1 to 6 ft. *Species* cultivated, about 3. *Leaves*, roundish or lance shaped, green, or variegated with creamy yellow. *Compost*, equal parts rough peat, sphagnum moss, charcoal, & coarse sand. *Position*, pots with shoots trained to old tree stems, trunks of tree ferns or walls. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* freely all the year round. *Temp.*, Sept. to Mar., 60° to 65°; Mar. to Sept., 80° to 85°. *Shade* from sun essential. *Propagate* by division of roots, Feb. or Mar.

Pot Marigold (*Calendula officinalis*)—see Calendula.

Pot Marjoram (*Origanum onites*)—see Origanum.

Prairie Lily (*Mentzelia ornata*)—see Mentzelia.

Prairie Rose (*Rosa setigera*)—see Rosa.

Prairie Sun-flower (*Helianthus rigidus*)—see Helianthus.

Pratia.—*Ord.* Campanulaceæ. Hardy herbaceous perennial trailing plants. *Nat.* New Zealand, Falkland Islands. *Int.* 1879. *Species* cultivated, 2. *Flowers*, white, violet; June to Oct., succeeded by violet-coloured berries.

OUTDOOR CULTURE: *Soil*, two parts peat, one part leaf-mould & little sand, *Position*, sunny well drained rockeries. *Plant*, Mar. or Ap. *Water* freely in dry weather. POT CULTURE: *Compost*, two parts sandy loam, half a part each leaf-mould & silver sand. *Pot*, Mar. *Position*, cool or cold greenhouse. frame or window. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants occasionally when flowering. *Shade* from midday sun. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in equal parts loam, leaf-mould, & sand in temp. 85°, Mar.; cuttings of young shoots inserted in well drained pots, July to Sept., & stored in cold frame or greenhouse until Mar., then planted outdoors.

Preacher-in-the-Pulpit (*Orchis spectabilis*)—see Orchis.

Pretty Grass (*Calochortus pulchellus*)—see Calochortus.

Pretty Mariposa Lily (*Calochortus pulchellus*)—see Calochortus.

Pretty St. John's-wort (*Hypericum amœnum*)—see Hypericum.

Prickly Artichoke (*Cynara cardunculus*)—see Cynara.

Prickly Ash (*Xanthoxylon fraxineum*)—see Xanthoxylon.

Prickly Box Tree (*Ruscus aculeatus* & *Lycium barbarum*)—see Ruscus & Lycium.

Prickly Cedar (*Juniperus oxcycedrus*)—see Juniperus.

Prickly Custard-apple (*Anona muricata*)—see Anona.

Prickly Fir (*Abies morinda*)—see Abies.

Prickly-fruited Gherkin Cucumber (*Cucumis anguria*)—see Cucumis.

Prickly Heath (*Pernettya angustifolia*)—see Pernettya.

Prickly Ivy (*Smilax aspera*)—see Smilax.

Prickly-leaved Dragon's-head (*Dracocephalum peregrinum*)—see Dracocephalum.

Prickly Pear-tree (*Opuntia vulgaris*)—see Opuntia.

Prickly Pettigree (*Ruscus aculeatus*)—see Ruscus.

Prickly Poppy (*Argemone mexicana*)—see Argemone.

Prickly-seeded Spinach (*Spinacia oleracea spinosa*)—see Spinacia.

Prickly Shield Fern (*Polystichum aculeatum*)—see Polystichum.

Prickly Thrift (*Acantholimon glumaceum*)—see Acantholimon.

Prickly-withe (*Cereus triangularis*)—see Cereus.

Prick-wood (*Cornus sanguinea* & *Euonymus europæus*)—see Cornus & Euonymus.

Pride-of-Barbadoes (*Cæsalpinia pulcherrima*)—see Cæsalpinia.

Pride-of-China (*Melia azedarach*)—see Melia.

Pride-of-Columbia (*Phlox speciosa*)—see Phlox.

Pride-of-India (*Melia azedarach*)—see Melia.

Prim-fruit (*Ligustrum vulgare*)—see Ligustrum.

Primrose (*Primula acaulis*)—see Primula.

Primrose-leaved Bell-flower (*Campanula primulæfolia*—see Campanula.

Primrose-Peerless (*Narcissus biflorus*)—see Narcissus.

Primrose Sunflower (*Helianthus annuus var.*)—see Helianthus.

Primula (Auricula, Ox-lip, Primrose, Polyanthus, Cowslip).—*Ord.* Primulaceæ. Greenhouse & hardy perennial herbs. AURICULA: *Nat.* European Alps. *Int.* 1596. *Ht.* 4 in. *Flowers*, various colours; spring. *Alpine* type have blooms one colour, white or yellow eye, stems smooth & free from powder. *Florists'* type, stems & blooms covered with mealy powder; blooms with more than one colour, & white, grey, or green-edged petals. *Properties* of florists' auricula: Stem erect, elastic, carrying truss well above foliage; stalk proportionately long to size of petals; pips (blooms) seven to each truss, round; anthers, bold; eye, white, smooth & round; colours, well defined, rich; edges, distinct. *Compost*, two parts turfy loam, one part cow manure, leaf-mould, half a part silver sand. *Position*, choice kinds in 3 in. pots in airy frame or cool greenhouse; others in rich soil in shady borders. *Pot* & plant, Feb. or Mar. *Water* those in pots moderately in winter; freely other times. *Top-dress* with rich soil in Mar. plants that were not repotted. *Apply* liquid manure in a weak state to plants in flower. *Propagate* by seeds sown in pans of light rich soil, just covered with fine soil, in Mar., in cold frame or greenhouse; by offsets in Feb. Chinese Primula (*P. sinensis*): *Nat.* China. *Int.* 1820. *Ht.* 6 to 9 in. *Species* cultivated, 1; varieties numerous. *Flowers*, various; Sept. to Ap. *Compost*, one part fibrous loam, half a part each of leaf-mould & decayed cow manure, half a part silver sand. *Sow* seeds in May on surface of a compost of two parts leaf-mould & one part loam, half a part sand, pressed moderately firm in a shallow pan or 6-in. pot, half filled with drainage. *Cover* seeds thinly with similar soil. *Place* pane of glass over pot or pan & put in temp. 55° to 65°. *Shade* from sun. *Keep* soil just moist. *Transplant* seedlings when three leaves form 1 in. apart in 3-in. pots, well drained & filled with compost advised for seeds. Still keep in temp. 55° to 65°. When leaves of seedlings meet each other, place singly in 2-in. pots, keep in same temp. for a week, then transfer to cold frame. *Shade* from sun. *Admit* air freely. *Sprinkle* foliage in evening. *Transfer* to 5-in. pots when well rooted. *Replace* in frame, shade from sun, water moderately, & sprinkle foliage as before. *Apply* liquid soot & cow or sheep manure—1 bushel of latter & 1 peck of former to 36 gallons of water—diluted with two-thirds water twice a week when well rooted. *Water* freely. Remove to temp. 50° to 55° in Sept. Admit air freely on fine days. Nip off first truss of bloom if not required to flower before Nov. *Temp.* for flowering 50° to 55°. When potting, allow base of leaves to just touch the compost. *Pot* moderately firm. *Suitable artificial manures*: (1) ½ oz. each sulphate of ammonia & kainit to 2 gall. of water. (2) Teaspoonful of Clay's fertilizer to 1 gall. of water. To be applied twice a week to plants established in flowering pots. (3) Half a teaspoonful of Standen's manure sprinkled on surface of soil in each pot once a fortnight. Single flowered kinds best raised from seed annually, rejecting old plants after flowering. *Sow* in June for spring flowering. *Double varieties* require to be propagated annually by cuttings inserted singly in small pots filled with equal parts leaf-mould, loam, & sand, placed in temp. 65° to 70°, after flowering; or by division of plants in Ap. Culture same as advised for seedlings. *Temp.* for flowering 55° to 60°. *Semi-double varieties* raised from seed as advised for singles. P. obconica: *Nat.* Central China. *Int.* 1882. *Ht.* 6 to 12 in. *Flowers*, lilac; all the year round. *Compost* & mode of raising from seed & general treatment same as advised for *P. sinensis*. *Temp* for flowering 45° to 55°. *Top-dress* old plants with decayed cow manure in Feb. to promote spring flowering. *Repot* old plants in Mar. to flower in sum. *Old plants* may also be divided in Mar. P. cortusoides Sieboldi. Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1865. *Ht.* 8 to 12 in. *Flowers*, various; Mar. to June. *Compost*, equal parts fibry loam, leaf-mould, thoroughly decayed cow manure & coarse silver sand. *Position*, sunny rockery, or well drained pots or pans in cold frame or greenhouse. *Plant* outdoors, Mar. *Mulch* with cocoanut-fibre refuse or decayed manure in Ap. *Water* freely in pots, Mar. to Sept.; moderately, Sept. to Nov.; keep dry afterwards. *Repot* Feb. or Mar. *Apply* stimulants advised for *P. sinensis* when growing. Miscellaneous Species: *P. amœna*, ordinary soil, sheltered rockery or border; *P. capitata*, moist loam, shady border; *P. cortusoides*, light rich soil, sunny rockery or border; *P. denticulata* & *P. purpurea*, rich loam, shady border; *P. farinosa* & *P. scotica*, sandy loam & peat, moist crevices of rockery; *P. Allioni* & *P. Clusii*, loam & leaf-mould, sunny rockery; *P. japonica*, deep rich loam, shady border; *P. viscosa* & *P. latifolia*, sandy peat, sunny rockery; *P. luteola*, leaf-mould & moist loam, partially shady rockery; *P. marginata*, leaf-mould & loam, sunny rockery; *P. minima*, sandy peat & loam, sunny rockery; *P. involucrata* & *P. Munroi*, boggy peat, moist border; *P. Parryi*, moist loam & peat, partially shady border; *P. rosea*, rich loam, moist shady rockery or border; *P. sikkimensis*, deep moist loam, shady rockery; *P. Stuarti*, light soil, sunny rockery; *P. viscosa* & *P. nivalis*, peat, loam, & sand, sunny rockery. *Plant*, Mar. or Ap. P. FLORIBUNDA & P. VERTICILLATA: *Compost*, equal parts sandy fibrous loam & leaf-mould, half a part silver sand. *Position*, well drained pots in light airy greenhouse. *Pot* after flowering. *Flowering period*, spring. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 50° to 55°. *Water* freely, Mar. to Oct.; moderately afterwards. Apply stimulants as advised for *P. sinensis*. PRIMROSE (*P. vulgaris*): Hardy herbaceous perennial. *Nat.* Britain. *Soil*, ordinary rich moist. *Position*, partially or wholly shaded beds & borders. *Plant*, Oct., Nov., Feb. & Mar. *Mulch* surface of beds containing choice sorts with decayed manure in Feb. *Lift* those grown in flower beds directly after flowering, divide & replant 6 in. apart each way in shady border until Oct., then replant in beds. *Pot Culture*, as advised for Polyanthus. POLYANTHUS (*P. variabilis*): Hardy herbaceous perennial. *Nat.* Britain. Supposed to be a hybrid between the primrose and cowslip. *Flowers*, various; spring. CLASSIFICATION: *Gold-laced*, having centre and edges of bloom golden; *Fancy*, blooms of various hues; *Hose-in-Hose*, semi-double, one bloom growing out of another; *Jack-in-the-Green*, bloom surrounded by a collar-like calyx; *Pantaloons*, small, curiously-coloured blooms. *Properties of Gold-laced Polyanthus: Pip* (bloom) perfectly flat and round, slightly scalloped on edge, and divided into five or six lobes or segments; *Tube* or throat, thrum-eyed, that is, not showing the pistil; *Edging* and centre of lobes or florets to be even in width, and of same shade of sulphur, lemon or yellow as the eyes, and one shade of yellow only in centre; *Ground or body colour*, black or red; *Flower stem*, stiff, strong, erect. *Outdoor Culture:* same as for primrose. *Pot Culture:* Compost, two parts good yellow fibrous loam, one part of equal proportions of thoroughly decayed manure, leaf-mould and silver sand. *Pot* in Aug. Place in shady cold frame, in a north aspect after potting, until Oct., then transfer to frame in south aspect. *Give* just enough water to keep soil moist between Aug. & Mar., afterwards water freely. *Admit* air freely always, except in severe weather. *Top dress* in Feb. with compost of equal parts loam & decayed cow manure. *Apply* weak stimulants once a week Mar. to July. *Transfer* to cold frame or greenhouse with north aspect when in flower. *Repot* annually. *Propagate* miscellaneous species by seeds sown on surface of equal parts peat, leaf-mould, & loam in shallow pans or boxes in shady cold frame in Mar. or Ap., or by division in spring; *P. verticillata* & *P. floribunda* by seeds sown as advised for *P. sinensis*, also by division after flowering; primrose & polyanthus by seeds sown on surface of light sandy soil, slightly covered in cold frame in Mar. or Ap., or outdoors in shady position in Ap., likewise by division after flowering.

Prince's-Feather (*Amaranthus hypochondriacus*)—see Amaranthus.

Pritchardia.—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Sandwich & Pomotou Islands. *Int.* 1870. *Ht.* 4 to 10 ft. *Species* cultivated, about 6. *Leaves* more or less fan shaped, green. *Compost*, two parts peat & one of loam & sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* twice daily, Mar. to Sept.; once daily, Sept. to Mar. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown ½ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Privet (*Ligustrum vulgare*)—see Ligustrum.

Procumbent Broom (*Genista procumbens*)—see Genista.

Procumbent Phlox (*Phlox procumbens*)—see Phlox.

Procumbent Sun-rose (*Helianthemum procumbens*)—see Helianthemum.

Procumbent Yellow-flowered Wood-Sorrel (*Oxalis corniculata*) see Oxalis.

Profuse-flowering Chinese Crab (*Pyrus Malus floribundus*)—see Pyrus.

Profuse Sea-Lavender (*Statice profusa*)—see Statice.

Proliferous Aloe (*Aloe prolifera*)—see Aloe.

Proliferous St. John's-Wort (*Hypericum prolificum*)—see Hypericum.

Prophet-flower (*Arnebia echioides*)—see Arnebia.

Prostanthera (Victorian Dog-wood, Australian Smut-tree).—*Ord.* Labiatæ. Greenhouse & half-hardy flowering trees. *Nat.* Australia. *Int.* 1808. *Ht.* 2 to 6 ft. *Species* cultivated, 5 greenhouse, 1 half-hardy. *Flowers*, white, purple, violet, red, blue; May to Sept. CULTURE OF GREENHOUSE SPECIES (*P. violacea*, *P. nivea*, etc.): *Compost*, two parts sandy loam, one part equal proportions of charcoal, broken crocks, & coarse silver sand. *Position*, sunny light airy greenhouse. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Nov.: occasionally afterwards. *Firm* potting, good drainage, & shade from bright sun essential. *No* stimulants required. *Prune* into shape, Feb. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 40° to 50°. CULTURE OF HALF-HARDY SPECIES (*P. lasianthos*): *Soil*, as above. *Position*, against S. wall, well drained borders, S. & S.W. of England only; pots in cold greenhouse other parts. *Plant*, Ap. *Protect* in severe weather. *No* pruning beyond training straggly shoots required. *Water* freely in dry weather. *Propagate* by seeds sown in sandy peat in temp. 65° to 75°, Mar. or Ap.; cuttings of young shoots inserted singly in small pots of sandy soil in temp. 50° to 55°, spring or sum.

Prostrate Speedwell (*Veronica prostrata*)—see Veronica.

Protea (Cape Artichoke, Cape Honey-flower, Sugar Bush).—*Ord.* Proteaceæ. Greenhouse evergreen flowering shrubs. *Int.* 1774. *Nat.* S. Africa. *Ht.* 1 to 6 ft. *Species* cultivated, about 19. *Flowers*, purple, white, scarlet; Feb. to Sept. *Compost*, two parts light well decayed turfy loam, one part equal proportions silver sand, charcoal, broken pots, freestone, & peat. *Position*, light airy greenhouse fully exposed to sunshine. *Pot*, Mar. *Drain* pots ¼ of depth with broken potsherds. *Pot* firmly. *Water* moderately, Mar. to Sept.; occasionally afterwards, keeping soil just moist. *No* syringing or stimulants required. *Stand* plants in sunny position outdoors during June, July, & Aug. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to June, 55° to 65°. *Propagate* by cuttings of firm shoots cut off close to a joint, pared quite smooth, inserted thinly in small pots half filled with drainage, & remainder with pure sand, placed under bell-glass in cool part of greenhouse in sum.

Provence Furze (*Ulex provincialis*)—see Ulex.

Provence Oil-plant (*Olea europæa*)—see Olea.

Provence Rose (*Rosa centifolia pomponia*)—see Rosa.

Prunella (Selfheal).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* Europe (Britain). *Ht.* 6 to 12 in. *Species* cultivated, 3; varieties numerous. *Flowers*, purple, white; May to Sept. *Soil*, ordinary light rich. *Position*, moist shady border or rockery. *Plant*, Oct., Nov., Mar. or Ap. *Lift*, divide, & replant every 2 or 3 years. *Water* in dry weather. *Mulch* with decayed manure in Mar. *Apply* stimulants during flowering season. *Propagate* by division of roots, Oct., Nov. or Mar.

Prune-tree (*Prunus domestica*)—see Prunus.

Prunus (Plum, Damson, Myrobalan Plum, Double Chinese Plum).—*Ord.* Rosaceæ. Hardy deciduous trees. Edible fruit-bearing, flowering & orn. foliage. PLUM (*P. domestica*): *Nat.* England. *Ht.* 15 to 20 ft. *Varieties* cultivated, about 190. *Flowers*, white; spring. *Fruit*, round or oval; white, yellow, red, or purple. *Soil*, shallow, moderately moist sandy loam, or good ordinary, intermixed freely with old mortar. *Subsoil*, gravelly or chalky. *Position*, open, sunny, sheltered gardens, orchards, walls, or fences. *Plant*, Nov. to Feb. *Distance for planting*—Standards, 21 to 24 ft. each way;

pyramids, 9 to 10 ft.; fan trained, 15 ft; bush-trained, 6 to 9 ft.; cordons, 18 in. *Distance from paths*— Pyramids, 5 ft.; bush-trained, 2 ft. 6 in. *Number of trees required to plant 1 acre*—Standards (21 ft. apart), 99; pyramids (9 ft. apart), 537; bush-trained (6 ft. apart), 1,210. *Cost of trees per* 100—Standards and pyramids, £5 to £10; bush-trained, £2 10s. to £5. *Cost of single trees* Standards, 2s. 6d. to 7s. 6d.; pyramids, 2s. 6d. to 5s.; fan-trained, 3s. 6d to 7s 6d.; bush trained, 2s. 6d. to 3s. 6d.; cordons, 1s. 6d. to 2s. 6d. *Mode of Bearing*—On spurs formed at base of shoots of previous year's growth, & on older branches. *Prune*, sum., July & Aug.; winter, Dec. to Feb. Simply thin out branches of standards, & keep centres open. Shorten leading shoots of pyramids & bushes at sixth leaf from base in July; remainder two inches from their base, week or so later. Shorten leading shoots of fan-trained trees in Dec.; also side or front shoots not required to forward new branches to within 2 in. of base, July or Aug. Leading shoots of cordons to grow unpruned until full height is attained; side shoots to be shortened to within 1 in. of base, June or July. *Thin* fruit of greengages to 3 in. apart; large kinds to 4 or 6 in. apart, when size of hazel nut. *Mulch* newly planted trees with thick layer of cow manure. *Root-prune* vigorous & unfruitful trees in Sept. *Lift*, root-prune, & repot pyramids, bush, & cordon trees every third year. *Chemical manures*: kainit (sulphate of potash), 5 parts; (by weight), magnesium sulphate, 2 parts; superphosphate, 2 parts. *Apply* at rate of 7 lbs. per tree immediately after pruning to area of soil equal to circumference of branches, & 22 lbs. more in Mar., forking it in (Griffiths). *Propagate* by seeds (stones) sown 2 in. deep, 1 in. apart in sandy soil outdoors in Sept. or Oct.; budding in July; grafting in Mar., layering in autn. *Stocks used for budding and grafting*: Mussle for standards & pyramids; common plum for dwarfs. DAMSON (*P. domestica var. damascena*): *Nat.* England. *Varieties* cultivated, 6. *Fruit*, round or oval, yellow or purple; Sept. & Oct. *Soil*, moderately rich deep loam. *Position*, south aspect, well drained site. *Shape of trees*, standard, pyramidal, or bush. *Plant* bush-trained trees 5 ft. apart; pyramidal, 15 ft.; standards, 24 ft., in Nov., Dec. or Jan. *Depth for roots*, 6 in. *Prune* in Dec., simply cutting away old branches or weak shoots & moderately shortening strong ones. *Manures, cost of trees, etc.*, same as for plums. *Propagate* by seeds (stones) sown 1 in. deep outdoors in Oct., Nov. or Dec. MYROBALAN PLUM (*P. cerasifera*): *Nat.* country unknown. *Ht.* 10 to 15 ft. *Flowers*, white, Ap. *Fruit*, oval; violet rose; autn. *Branches thorny.* Used chiefly for hedges; occasionally as a stock for plums. *Hedge culture: Soil*, ordinary. *Position*, sunny. *Plant*, Oct. to Feb. Distance apart to plant, 6 in. Size of plants, two-year old. Trim into shape, June or July. Cost per 100, 5s. to 7s.; per 1,000, 35s. to 40s. *Propagate* by seeds (stones) sown as advised for plums; layering shoots in Mar.; suckers in autn. MISCELLANEOUS SPECIES (*P. Pissardii*, *P. sinensis*, *P. triloba*, & *P. divaricata*): *Nat.* Persia, China, & Caucasus. *Int.* (*P. Pissardii*) 1881, (*P. sinensis*) 1869, (*P. triloba*) 1857, (*P. divaricata*) 1822. *Flowers*, white or rose, single & double, Mar. to May. *Leaves* of *P. Pissardii*, reddish-purple. *Soil*, ordinary. *Position*, well drained sunny borders or shrubberies; S. or S.W. wall for *P. triloba*. *Plant*, Oct. to Feb. *Prune* as advised for bush plums. POT CULTURE OF P. SINENSIS & P. TRILOBA: *Compost*, two parts sandy loam, one part leaf-mould, half a part silver sand. *Position*, cold greenhouse, Jan. to June; outdoors, pots plunged to rim in garden soil, June to Nov.; sheltered corner or pit, Nov. to Jan. *Pot*, Nov. *Repot* annually. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally, Ap. to Sept. *Temp.* for forcing 55° to 65°. *Propagate* by budding in July, or grafting in Mar. on common plum or myrobalan plum; cuttings of young shoots, 3 to 4 in. long, inserted in sandy soil in shady close cold frame in July; layering in spring.

Prussian Fir (*Abies excelsa*)—see Abies.

Pseudopanax.—*Ord.* Araliaceæ. Greenhouse evergreen shrubs. Orn foliage. *Nat.* New Zealand. *Int.* 1846. *Ht.* 5 to 10 ft. *Species* cultivated

2. *Leaves*, hand-shaped, shining. *Compost*, equal parts loam, peaty leaf-mould, charcoal, & sand. *Pot*, Feb. to Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 55° to 60°; Sept. to Mar, 45° to 55°. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap.

Psidium (Guava Tree).—*Ord.* Myrtaceæ. Stove evergreen shrubs. Flowering & edible fruit-bearing. *Nat.* Brazil, W. Indies, Cayenne. *Int.* 1692. *Ht.* 3 to 20 ft. *Species* cultivated, 6. *Flowers*, white; May to June. *Fruit* (berries) yellow or claret coloured, round or pear-shaped, aromatic, edible. *Compost*, two parts fibrous sandy loam, one part equal proportions dry cow manure & silver sand. *Position*, well drained pots, tubs, or beds with shoots trained to back walls of stove, warm greenhouse, or vinery. *Pot* or plant, Feb. or Mar. *Prune* into shape annually, Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* freely, Mar., until fruit begins to ripen, then keep foliage dry. *Apply* weak stimulants occasionally after berries form until fruit ripens. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 45° to 55°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted in sand under bell-glass in temp. 75° to 80, spring or sum.

Psoralea (Scurfy Pea, Mexican Tea Plant).—*Ord.* Leguminosæ. Greenhouse evergreen shrubs & hardy herbaceous perennials. *Nat.* Cape of Good Hope, Chili, N. America. *Int.* 1690. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 21 greenhouse; 5 hardy herbaceous. *Flowers*, purple, blue, white, violet; May to Sept. CULTURE OF SHRUBBY SPECIES: *Compost*, equal parts fibrous loam, peat, & silver sand. *Position*, pots in sunny airy greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Good* drainage essential. *No* stimulants or shade required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *P. glandulosa* may be grown in well drained bed of equal parts sandy peat & loam against sunny walls S. or S.W. England only. CULTURE OF HARDY HERBACEOUS SPECIES: *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Mulch* with decayed manure annually in Mar. *Lift*, divide, & replant every 3 or 4 years. *Propagate* shrubby species by cuttings of firm shoots, 2 to 3 in. long, inserted in pots half filled with drainage, remainder layer of moss & pure sand, placed under bell-glass in shady part of greenhouse, May or June; division of roots in Ap.

Ptelea (Hop Tree, Shrubby Trefoil, Wafer Ash, Swamp Dog-wood, Wing-seed, Yellow-leaved Hop Tree).—*Ord.* Rutaceæ. Hardy herbaceous shrubs. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1704. *Ht.* 4 to 8 ft. *Species* cultivated, 1; variety, 1. *Flowers*, green; May & June. *Leaves*, trifoliate, green, or variegated with yellow. *Soil*, ordinary. *Position*, open shrubberies, plantations, or woods. *Plant*, Nov. to Feb. *Prune* into shape, Dec. to Feb. *Propagate* by seeds sown ½ in. deep in sunny position outdoors in Mar. or Ap,; layering shoots any time.

Pteris (Bracken, Brake-fern, Eagle Fern, Spider Fern).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. Evergreen, one deciduous. *Nat.* E. & W. Indies, Mexico, Madeira, Europe (Britain), Azores, Chili, Brazil, Australia, New Zealand. *Int.* (foreign species) 1770. *Species* cultivated, 5 stove; 25 greenhouse; 1 hardy (deciduous); varieties many. CULTURE OF HARDY SPECIES (*P. aquilina*): *Soil*, ordinary. *Position*, shady borders or woods. *Plant*, Ap. CULTURE OF STOVE SPECIES: *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, pots, beds, or rockeries in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* abundantly, Ap. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept, 70° to 80°; Sept. to Mar., 60° to 70°. CULTURE OF GREENHOUSE SPECIES: *Compost*, as above. *Pot*, Mar. or Ap. *Position*, pots, beds, or rockery in shady part of house. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 55°. *Propagate* by spores sown on fine sandy peat in well drained pans in temp. 80° any time; dwarf species by division of plants, Oct. or Ap.

Pterostyrax.—*Ord.* Styracaceæ. Hardy deciduous shrub. *Nat.* Japan. *Int.* 1875. *Ht.* 8 to 12 ft. *Species* cultivated, 1. *Flowers*, white; borne in drooping clusters end of July. *Soil*, deep moist sandy loam. *Position*, against S. or S.W. walls. *Prune* away weak shoots only, Nov. to Feb. *Propagate* by cuttings of roots inserted in sandy soil outdoors in Mar. or Oct.; layering shoots in Oct. or Nov.

Ptychosperma (Australian Feather Palm).—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Queensland, New Guinea, Australia, Fiji Islands. *Int.* 1867. *Ht.* 10 to 30 ft. *Species* cultivated, about 5. *Leaves*, feather-shaped, green, very graceful. *Compost*, equal parts loam & leaf-mould, half a part silver sand. *Position*, shady part of stove, warm greenhouse, or conservatory; pots or tubs. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Top-dress* large plants occasionally with layer of cow manure. *Apply* stimulants occasionally, Ap. to Sept. *Temp.*, Mar. to Oct., 60° to 75°; Oct. to Mar., 55° to 60°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Pudding-berry (*Cornus canadensis*)—see Cornus.

Pulmonaria (Lung-wort, Blue Cowslip, Sea Bugloss, Jerusalem Cowslip, Virgin Mary's Honeysuckle, Beggar's Basket, Beadlam Cowslip, Sage of Bethlehem).—*Ord.* Boraginaceæ. Hardy herbaceous herbs. Orn. foliage. *Nat.* Europe (Britain), Siberia. *Ht.* 9 to 15 in. *Species* cultivated, 4. *Flowers*, blue, pink, white, red; Mar. to July. *Leaves*, lance shaped, green, spotted with white. *Soil*, ordinary. *Position*, partially shaded rockeries or borders. *Plant*, Oct., Nov., Mar. or Ap. *Lift* & replant in fresh soil every 4 or 5 years. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in ordinary soil in shady position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Pulque-plant (*Agave americana*)—see Agave.

Pultenæa (Victorian Wallflower).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1792. *Ht.* 1 to 3 ft. *Species* cultivated, 17. *Flowers*, yellow, red, purple; Ap. to July. *Compost*, two parts fibrous peat, one part equal proportions silver sand & pounded charcoal. *Position*, light, airy greenhouse. *Pot*, Feb. or Mar. *Well* drained pots & firm potting essential. *Water* freely, Ap. to Sept.; moderately other times. *Use* soft water only. *No* stimulants required. *Shade* unnecessary. *Stand* plants in sunny position outdoors during July & Aug. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to July, 55° to 65°. *Propagate* by seeds sown on surface of shallow well drained pans, filled with sandy peat, slightly covered with fine peat, placed under bell-glass in temp. 55° to 65°, Mar. or Ap.; cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in shade in temp. 55° to 65° in sum.

Pumpkin (*Cucurbita Pepo*)—see Cucurbita.

Punica (Pomegranate).—*Ord.* Lythraceæ. Hardy deciduous fruit-bearing trees. *Nat.* S. Europe, Cabul, Persia, India. *Int.* 1548. *Ht.* 10 to 20 ft. *Species* cultivated, 1; varieties, about 7. *Flowers*, red, white, yellow; single or double; June to Sept. *Fruits*, roundish, golden red. *Compost*, two parts rich fibrous loam, one part thoroughly decayed cow manure. *Position*, well drained borders against S. & S.W. walls, S. & S.W. England; in tubs, pots, or borders, with shoots trained against back wall of cool or cold houses or conservatories in other parts of the country. *Plant*, Oct. to Feb. *Train* branches thinly to walls. *Prune* weak shoots only. *Blossom* & fruit borne on extremities of shoots of previous year's growth. *Water* outdoor trees copiously in dry weather; indoor trees frequently in sum.; moderately in autn. & spring; give none in winter. *Mulch* surface of soil annually with cow manure in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots of sandy soil in temp., 55° to 65° in spring, transplanting seedlings singly into small pots &

keeping in greenhouse until following spring, then plant outdoors or continue to grow in pots. Double-flowered sorts by cuttings of firm shoots, 6 to 8 in. long, inserted in well drained pots of sandy soil in cold frame or greenhouse any time; suckers removed from roots & transplanted in Oct. or Nov.; layering shoots Oct. or Nov.; grafting on single-flowered species in Mar.

Purification-flower (*Galanthus nivalis*)—see Galanthus.

Purple Beech (*Fagus sylvatica purpurea*)—see Fagus.

Purple Butterfly Orchis (*Orchis papilionacea*)—see Orchis.

Purple Camomile (*Aster tripolium*)—see Aster.

Purple Chick-weed (*Arenaria rubra*)—see Arenaria.

Purple Christmas Rose (*Helleborus purpurascens*)—see Helleborus.

Purple Cone-flower (*Echinacea purpurea*)—see Echinacea.

Purple Crocus (*Colchicum autumnale*)—see Colchicum.

Purple-flowered American Raspberry (*Rubus odoratus*)—see Rubus.

Purple-flowered Barren-wort (*Epimedium purpureum*)—see Epimedium.

Purple-flowered Bramble (*Rubus odoratus*)—see Rubus.

Purple-flowered Hellebore (*Helleborus purpurascens*)—see Helleborus.

Purple-flowered Henbane (*Hyoscyamus physaloides*) — see Hyoscyamus.

Purple-flowered Indigo-plant (*Indigofera floribunda*)—see Indigofera.

Purple-flowered Laburnum-tree (*Cytisus purpureus*)—see Cytisus.

Purple-flowered Magnolia (*Magnolia purpurea*)—see Magnolia.

Purple-flowered Mullein (*Verbascum phœniceum*)—see Verbascum.

Purple-flowered Onion (*Allium acuminatum*)—see Allium.

Purple-flowered Oxytrope (*Oxytropis uralensis*)—see Oxytropis.

Purple-flowered Rock-rose (*Cistus purpureus*)—see Cistus.

Purple-flowered Saxifrage (*Saxifraga oppositifolia* & *S. retusa*)—see Saxifraga.

Purple-flowered Thorn-apple (*Datura fastuosa*)—see Datura.

Purple-fringe (*Rhus cotinus*)—see Rhus.

Purple-fringed Orchis (*Habenaria fimbriata*)—see Habenaria.

Purple-fringed Sumach (*Rhus cotinus*)—see Rhus.

Purple Hemp-Agrimony (*Eupatorium purpureum*)—see Eupatorium.

Purple Himalayan Saxifrage (*Saxifraga purpurascens*)—see Saxifraga.

Purple Jacobæa (*Senecio elegans*)—see Senecio.

Purple-leaved Elm (*Ulmus campestris purpurea*)—see Ulmus.

Purple-leaved Filbert (*Corylus Avellana purpurea*)—see Corylus.

Purple-leaved Peach-tree (*Amygdalus persica foliis purpureus*)—see Amygdalus.

Purple-leaved Spider-wort (*Tradescantia discolor*)—see Tradescantia.

Purple-leaved Sycamore (*Acer pseudo-platanus purpureum*)—see Acer.

Purple Mexican Aster (*Cosmos bipinnatus*)—see Cosmos.

Purple Milk-weed (*Asclepias purpurascens*)—see Asclepias.

Purple Moor-grass (*Molinia cærulea*)—see Molinia.

Purple Orchis (*Orchis mascula*)—see Orchis.

Purple Osier (*Salix purpurea*)—see Salix.

Purple Rock-cress (*Aubretia purpurea*)—see Aubretia.

Purple Sand Verbena (*Abronia umbellata*)—see Abronia.

Purple Side-saddle-flower (*Sarracenia purpurea*)—see Sarracenia.

Purple Stone-crop (*Sedum purpureum*)—see Sedum.

Purple-tassels (*Muscari comosum*)—see Muscari.

Purple-tipped House-leek (*Sempervivum calcareum*)—see Sempervivum.

Purple Toad-flax (*Linaria purpurea*)—see Linaria.

Purple Willow (*Salix purpurea*)—see Salix.

Purple Wolf's-bane (*Aconitum cammarum*)—see Aconitum.

Purplish-flowered Sand-wort (*Arenaria purpurascens*)—see Arenaria.

Purplish Marsh-Marigold (*Caltha palustris purpurascens*)—see Caltha.

Purplish Meadow-Rue (*Thalictrum purpurascens*)—see Thalictrum.

Purplish-red-flowered Christmas Rose (*Helleborus atro-rubens*)—see Helleborus.

Purslane (*Portulacca oleracea*)—see Portulacca.

Puschkinia (Striped Squill).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. *Nat.* Orient. *Int.* 1819. *Ht.* 4 to 8 in. *Species* cultivated, 1; variety 1. *Flowers*, white, striped pale blue; Mar. to June. *Soil*, ordinary light sandy. *Position*, sunny well drained border or rockery. *Plant* bulbs 4 in. deep, 1 in. apart, Oct. or Nov. *Protect* immediately after planting with covering 1 in. deep of cocoanut-fibre refuse or decayed manure. *After flowering* remove protective material, fully exposing surface to sun to ripen bulbs. *Lift* & replant every 2 or 3 years. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in shallow well drained pans filled with light sandy soil in Aug. or Sept., placed in cold frame; offsets removed & planted as advised for old bulbs, Oct. or Nov.

Pygmy Japan Cypress (*Retinospora obtusa pygmæa*)—see Retinospora.

Pyramidal Bell-flower (*Campanula pyramidalis*)—see Campanula.

Pyramidal Box-tree (*Buxus sempervirens pyramidalis*)—see Buxus.

Pyramidal Bugle (*Ajuga pyramidalis*)—see Ajuga.

Pyramidal Chinese Arbor-vitæ (*Biota orientalis pyramidalis*)—see Biota.

Pyramidal-flowered Squill (*Scilla peruviana*)—see Scilla.

Pyramidal Orchis (*Orchis pyramidalis*)—see Orchis.

Pyramidal Saxifrage (*Saxifraga cotyledon pyramidalis*)—see Saxifraga.

Pyrenean Adonis (*Adonis pyrenaica*)—see Adonis.

Pyrenean Avens (*Geum pyrenaicum*)—see Geum.

Pyrenean Cinquefoil (*Potentilla pyrenaica*)—see Potentilla.

Pyrenean Columbine (*Aquilegia pyrenaica*)—see Aquilegia.

Pyrenean Cowslip (*Primula intricata*)—see Primula.

Pyrenean Dead Nettle (*Horminum pyrenaicum*)—see Horminum.

Pyrenean Fritillary (*Fritillaria pyrenaica*)—see Fritillaria.

Pyrenean Flag (*Iris xiphioides*)—see Iris.

Pyrenean Flea-bane (*Inula montana*)—see Inula.

Pyrenean Gentian (*Gentiana pyrenaica*)—see Gentian.

Pyrenean Honeysuckle (*Lonicera pyrenaica*)—see Lonicera.

Pyrenean Lily (*Lilium pyrenaicum*)—see Lilium.

Pyrenean Lychnis (*Lychnis pyrenaica*)—see Lychnis.

Pyrenean Meadow-Saffron (*Colchicum montanum*)—see Colchicum.

Pyrenean Monk's-hood (*Aconitum pyrenaicum*)—see Aconitum.

Pyrenean Saxifrage (*Saxifraga longifolia*)—see Saxifraga.

Pyrenean Self-heal (*Prunella pyrenaica*)—see Prunella.

Pyrenean Star of Bethlehem (*Ornithogalum pyrenaicum*)—see Ornithogalum.

Pyrenean Violet (*Viola cornuta*)—see Viola.

Pyrethrum (Feverfew, Featherfew, Golden Feather, Giant Ox-eye, Turfing Daisy).—*Ord.* Compositæ. Hardy deciduous & evergreen perennials. Flowering & orn. foliage. *Nat. P. parthenifolium aureum*—Golden Feather, Caucasus; *P. roseum* Rosy-flowered Featherfew, Orient; *P. uliginosum*—Giant Ox-eye, E. Europe; other species, Britain, Portugal. *Int.* Golden Feather, 1804; Rosy-flowered Featherfew, 1804; Giant Ox-eye, 1816. *Ht.* 3 in. to 5 ft. *Species* cultivated, 8; varieties many. *Flowers*, variously coloured; sum. *Leaves*, feather-shaped, green or golden. CULTURE OF GOLDEN FEATHER: *Sow* seeds in shallow box or pan, or well drained pot, filled with light sandy soil, just cover with fine mould & place in temp. 55° to 65°, Feb. to Ap. *Keep* soil moderately moist & shaded from sun. *Transplant* seedlings when three leaves form 1 in. apart each way in shallow boxes, pans, or well drained pots filled with light ordinary soil. *Keep* in heat until May, then place in cold frame & plant out in June. *Plant* 2 to 3 in. apart in beds. *Remove* flower stems as they form, also points of large leaves to ensure even growth. *Sow* seeds also in sunny spot outdoors early in Ap., & transplant seedlings when large enough. *Old* plants not worth preserving. *Best* results obtained by raising plants annually from seeds. CULTURE OF P. ROSEUM AND VARS.: *Soil*, good rich loam, liberally enriched with decayed manure. *Position*, sunny well drained bed or border. *Plant*, Nov., Mar. or Ap. in groups of three, 6 to 9 in. apart. *Mulch* liberally with decayed manure in Ap. *Water* freely in dry weather. *Apply* liquid manure occasionally during flowering period. *Cut* off first flowers directly they fade to ensure second crop of blooms in autn. *Lift*, divide, & replant in fresh soil every third year. CULTURE OF P. ULIGINOSUM: *Soil*, ordinary. *Position*, sunny or shady border. *Plant*, Nov., Mar. or Ap. *Cut* down stems to within 1 ft. of ground in June to ensure dwarf plants. *Water*, manure, & divide, as advised for *P. roseum*. CULTURE OF P. TCHIHATCHEWII: *Soil*, ordinary. *Position*, dry sunny banks, slopes, beds, & under trees. *Plant*, 3 in. apart in May. *Remove* flowers where a dense green carpet is preferred. *Propagate* as advised for Golden Feather. *Old plants* will survive the winter outdoors. CULTURE OF P. PARTHENIUM FL. PL., P. ACHILLÆFOLIUM AND P. CORYMBOSUM: *Soil*, ordinary. *Position*, sunny borders. *Plant*, Nov., Mar. or Ap. in groups of three, 6 to 9 in. apart. *Water* & apply manure, etc., as advised for *P. roseum*. *Propagate P. roseum*, *P. Parthenium*, etc., by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in temp. 55° in Mar., transplanting seedlings when three leaves form 1 in. apart in pots, pans, or boxes of light soil in similar temp., placing in cold frame in May, & planting outdoors in June; *P. roseum* also by division of roots in Mar., placing divisions singly in 3 in. pots in cold frame until June, then planting out; others by division of plants in Mar. or Ap.

Pyrola (Winter Green, American Shin-leaf, Wood Lily, Canker Lettuce).—*Ord.* Ericaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), N. America, W. Indies. *Ht.* 3 to 6 in. *Species* cultivated, 5. *Flowers*, white, red; fragrant; June to Sept. *Soil*, equal parts peat, leaf-mould, & sandy loam. *Position*, moist partially shady borders or rockeries. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Lift*, divide, & replant only when overgrown. *Propagate* by seeds sown thinly & slightly covered with very fine sandy peat in position where intended to grow, Mar. or Ap.; division of roots Mar. or Ap.

Pyrus (Apple, Pear, Crab, Service Tree, Sandy Pear, Snow Pear, Mountain Ash, Rowan Tree, White Beam Tree, Chokeberry).—*Ord.* Rosaceæ. APPLE (*Pyrus malus*): Hardy deciduous edible fruit-bearing tree. *Nat.* Europe (Britain). *Ht.* 15 to 30 ft. *Varieties* in cultivation about 1,550. *Flowers*, pink or white; May. *Fruit*, round or conical; Aug. to May. *Soil*, deep loam. *Position*, open, sheltered gardens, N.W. or E. walls; land sloping to S.E. & S.W., well drained, just above valley for orchards. *Plant*, Nov. to Feb. *Distance for planting*: Cordons, 18 in.; bush-trained trees, 5 to 6 ft.; pyramids, 9 to 10 ft.; fan-trained trees, 15 ft.; espaliers, 18 ft.; standards, 21 to 24 ft. *Distance from paths*: Pyramids, 5 ft.; bush-trained, 2 ft. 6 in. *Number of trees required to plant* 1 *acre*: Standards, 21 ft. apart, 99; 24 ft. apart, 75; bush trained, 6 ft. apart, 1,210; 9 ft. apart, 537; pyramids, 9 ft. apart, 537; 10 ft. 435. *Cost of trees per* 100: Standards & pyramids, £5 to £10; bush-trained, £2 10s. to £5; cordons, £3 to £6. *Cost of single trees*: Standards, 1s. d. to 2s. 6d.; pyramids, 1s. 6d. to 5s.; bush, 1s. to 2s.; espaliers, 3s. 6d. to 5s.; cordons, 1s. 6d. to 2s. 6d. *Mode of bearing*: On spurs formed on older branches & base of shoots of previous year's growth. *Fruit buds* may be distinguished from growth buds by having four leaves growing in a cluster. *Sum. pruning*: Shorten all side shoots on cordon trees to the second latent bud—about 1 in.—from their base in June; leave the leader unpruned. Remove the points of the strongest young shoots on pyramids & bushes in July; leave the weak ones untouched. Secure to the wall suitably-placed young shoots of fan-trained trees to form future branches, & nip off points of remaining ones in July. Allow the extremity of each espalier branch to grow unchecked & just take off tips of strongest side shoots in July. Standards require no sum. pruning. *Autn. & winter pruning*: Shorten secondary shoots of cordons to within 1 in. of their base in Sept.; no further pruning required. Shorten all shoots, except leading ones, of bushes & pyramids to within 2 in. of their base in Sept.; leading shoots to 6 or 8 in. in Nov. *Prune* to within 2 in. of base all side shoots on fan-trained trees in Aug. or Sept.; leading shoots, intended to form new branches, to 6, 9, or 12 in. in Nov. Espalier side shoots shorten to 2 in. in Aug. or Sept.; leaders at end of branches to 6, 9, or 12 in. in Nov. Simply thin out branches of standards, keep centre quite open, & shorten any extra vigorous shoot. *Mulch* newly-planted trees with thick layer of manure. *Root prune* vigorous unfruitful trees in Sept. *Lift & replant* every third year cordon, bush, & pyramid trees to keep them fruitful. *Gather fruit* when, on lifting it by the hand, from a vertical to a horizontal position, it readily parts from the tree. *Store* in dark, cool, frost-proof room. *Chemical manures*: (1) Superphosphate of lime 12 parts (by weight) nitrate of potash, 10 parts; common salt, 4 parts; sulphate of magnesia, 2 parts; sulphate of iron, 1 part; sulphate of lime, 8 parts. To be applied at the rate of ¼ lb. per square yard in Mar. or Ap. (2) Equal parts (by weight) kainit, sulphate of soda, & superphosphate of lime. To be applied at the rate of 6 lbs. per tree after pruning (Griffiths). *Natural manures*: (3) Decayed cow manure spread on surface of soil over roots in Nov. or Dec. (4) Poultry dung applied in a similar manner. (5) Soapsuds applied liberally in autn. & winter. (6) Liquid horse or cow manure & urine applied at any time. *Stocks used for budding or grafting*: Crab & seedling apple for standards; English Paradise for pyramids & bushes; French Paradise for cordons & very dwarf trees. *Propagate* for new sorts by seeds sown 3-in. deep outdoors in Mar.; grafting in Mar., or budding in July & Aug., to perpetuate existing varieties. PEAR (*Pyrus communis*): Hardy deciduous edible fruit-bearing tree. *Nat.* Europe (Britain). *Ht.* 20 to 40 ft. *Varieties* cultivated, about 650. *Flowers*, white; Ap. to May. *Fruit*, round or pyriform; July to May. *Soil*, deep rich loam; clay soils unsuitable. *Position*, S., W. or E. walls, fences, or arches, for cordons, fan, or espalier-trained trees; open sheltered garden for pyramids or bushes; land sloping to S.E. & S.W., for standards. *Plant*, Nov. to Feb. Remaining cultural details, except chemical manures & stocks, same as advised for the apple. *Chemical manures*: Kainit, 4 parts, (by weight) superphosphate, 1 part. Apply at rate of 4 lbs. per tree in Feb. or Mar. Apply also nitrate of soda at the rate of ½ oz. per gallon of water in liberal quantities once a week, July to Sept. (Griffiths). *Stocks*: Common Pear for standards; quince for pyramids; bushes, & cordons. *Propagate* as advised for the apple. FLOWERING SPECIES: (1) *P. malus* & vars.; (2) *P.*

floribunda; (3) *P. spectabilis*; (4) *P. Toringo*; (5) *P. sinensis*; (6) *P. domestica.* True Service tree: Hardy deciduous trees & shrubs. *Nat.* (1) Europe; (2 & 4) Japan; (3 & 5) China; (6) Britain. *Ht.* 5 to 30 ft. *Flowers*, red, white, rose; Ap. to June. *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Nov. to Feb. *Prune*, Dec. to Feb., shortening previous year's side shoots of *P. spectabilis* to within 2 in. of base, leading shoots to 6, 8, or 12 in. Other species require no pruning beyond thinning out branches. *Propagate* by seeds sown 3 in. in sandy soil in sunny position outdoors in Mar.; cuttings of shoots 8 to 12 in. long inserted in ordinary soil outdoors in autn.; layering in autn.; budding on common pear or quince in July; grafting in Mar. MISCELLANEOUS SPECIES (*P. aucuparia*—Mountain Ash; *P. aria*—White Beam, etc.): Hardy deciduous trees & shrubs. Orn. foliage. *Nat.* Europe, Britain, Siberia. *Ht.* 4 to 40 ft. *Flowers*, white; May & June. *Berries of P. aucuparia*, scarlet; autn. *Leaves*, feather-shaped. *Soil*, ordinary. *Position*, sunny shrubberies or woodlands. *Plant*, Nov. to Feb. *Prune*, Dec. to Feb., simply thinning out branches. *Propagate P. aucuparia* by seeds sown ¾ in. deep, & 1 in. apart in ordinary soil outdoors in Oct. or Nov.; also by other methods advised for flowering species.

Pyxidanthera (Pine-Barren Beauty).—*Ord.* Diapensiaceæ. Hardy evergreen creeping shrub. *Nat.* New Jersey. *Int.* 1851. *Species* cultivated, 1. *Flowers*, rose; May to Sept. *Soil*, equal parts sandy peat & leaf-mould. *Position*, sunny rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by seeds sown where required to grow, lightly covering with fine sandy peat, Sept., Oct., or Mar.; division of plants, Oct. or Mar.

Quadrangular-branched Broom (*Genista tetragona*)—see Genista.

Quaint Garlic (*Allium paradoxum*)—see Allium.

Quaking Grass (*Briza media*)—see Briza.

Quamash (*Camassia esculenta*)—see Camassia.

Quamoclit (*Ipomœa quamoclit*).—see Ipomœa.

Queen Lily (*Phædranassa chloracra*)—see Phædranassa.

Queen-of-the-Meadow (*Spiræa salicifolia*)—see Spiræa.

Queen-of-the-Orchids (*Grammatophyllum speciosum*)—see Grammatophyllum.

Queen-of-the-Prairie (*Spiræa lobata*)—see Spiræa.

Queen Olga's Snowdrop (*Galanthus reginæ olgæ*)—see Galanthus.

Queen's Cushion (*Saxifraga hypnoides*)—see Saxifraga.

Queen's-flower (*Lagerstrœmia reginæ*)—see Lagerstrœmia.

Queen's Gilliflower (*Hesperis matronalis*)—see Hesperis.

Queensland Elk's-horn Fern (*Platycerium grande*)—see Platycerium.

Queensland Orange-tree (*Citrus australis*)—see Citrus.

Queensland Spear-lily (*Doryanthes Palmeri*)—see Doryanthes.

Queen's Stock (*Matthiola incana*)—see Matthiola.

Quercitron Bark-tree (*Quercus tinctoria*)—see Quercus.

Quercitron Oak (*Quercus tinctoria*)—see Quercus.

Quercus (Oak).—*Ord.* Cupuliferæ. Hardy deciduous & evergreen trees & shrubs. Orn. foliage. *Nat.* Common Oak (*Q. robur*), Britain; Evergreen Oak (*Q. ilex*), S. France; Cork Oak (*Q. suber*), Spain; Turkey Oak (*Q. cerris*), S. Europe; other species, Japan, N. America, S. Europe, China, Levant, U. S. America. *Int.* Evergreen & Cork Oak, 1581; Turkey Oak, 1735. *Ht.* 1 to 80 ft. *Species* cultivated, 12 evergreen; 80 deciduous. *Flowers*, greenish; male & female organs borne in different flowers on the same plant; Ap. *Male blooms* in long pendulous catkins; *females*, short, solitary, or clustered. *Fruit or seed* (acorns), more or less bullet shaped; autn. *Approximate age* attained by old oaks, 2,000 years. *Supposed oldest oak tree in England*—the Cowthorpe Oak; age, 1,800 years. *Greatest diameter* *of spread of branches* of oak growing in England, 180 ft. *Soil*, clay, gravelly, sandy, ironstone, or reclaimed boggy ground for Common Oak & varieties; chalky or clay ground for Evergreen Oak (*Q. ilex*); gravelly & sandy for Cork Oak (*Q. suber*); chalky for Q. mirebecki, rubra, & Turneri; ordinary for remainder. *Position*, open well drained shrubberies, fields, & woods. *Q. ilex* & *Q. cerris*, well adapted for planting near the sea. *Plant* evergreen kinds, Sept. to Nov., or Ap.; deciduous ones, Oct. to Feb. *Depth for planting* in heavy soils, 6 in.; light soils, 9 in. *Distance apart* for deciduous oaks, 20 to 25 ft.; evergreen oaks, used for shelter, 6 to 10 ft.; for hedges, 4 to 6 ft. *Prune* deciduous oaks in Dec.; evergreen kinds in Ap. *Propagate* by acorns gathered in autn., stored in sand until March, then sown 2 in. deep & 3 in. apart each way. *Transplant* when one year old 12 in. apart each way, & plant in permanent position when three or four years old. Also choice kinds by grafting in March on common oak.

Quick (*Cratægus oxyacantha*)—see Cratægus.

Quick-beam (*Pyrus aucuparia*)—see Pyrus.

Quicken-tree (*Pyrus aucuparia*)—see Pyrus.

Quick-set Thorn (*Cratægus oxyacantha*)—see Cratægus.

Quince-tree (*Pyrus cydonia*)—see Pyrus.

Quincy-berry (*Ribes nigrum*)—see Ribes.

Quisqualis (Rangoon Creeper).—*Ord.* Combretaceæ. Stove climbing flowering shrub. Deciduous. *Nat.* Tropical Asia & Africa. *Int.* 1815. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, orange-red; fragrant; May to Aug. *Compost*, two parts loam, one part peat, & a little sand. *Position*, well drained pot or tub, or in a bed with shoots trained up rafters. *Pot*, Feb. *Prune* shoots moderately close after flowering. *Water* freely, Ap. to Oct.; keep nearly dry remainder of year. *Syringe* daily, Ap. to Sept. *Shade* from mid-day sun only. *Propagate* by cuttings of young shoots taken off with a small portion of old stem attached, & inserted in sandy soil in small pots under a bell-glass in a temp. of 75° to 85° in spring.

Rægner's Ivy (*Hedera helix Rægneriana*)—see Hedera.

Rabbit-berry (*Shepherdia argentea*)—see Shepherdia.

Raccoon-berry (*Podophyllum peltatum*)—see Podophyllum.

Racemed Passion-flower (*Passiflora racemosa*)—see Passiflora.

Racemose Asparagus (*Asparagus racemosus*)—see Asparagus.

Radish (*Raphanus sativus*)—see Raphanus.

Rafnia.—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* S. Africa. *Int.* 1794. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, yellow, purple; May to July. *Compost*, equal parts fibrous loam & sandy peat, & one part equal proportions charcoal, broken pots & coarse silver sand. *Position*, well drained pots in light sunny greenhouse. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *No* stimulants required. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. *Shade* from mid-day sun. *Prune* straggling shoots moderately immediately after flowering. *Propagate* by seeds sown ⅛ in. deep in compost of equal parts peat, loam, & sand, in well drained pot or pan in temp. 55° to 65°, Feb. to May; cuttings of firm side shoots, 2 to 3 in. long, inserted singly in 2 in. pots, well drained, & filled with sandy peat, under bell-glass, June to Sept.

Ragnal Oak (*Quercus cerris Ragnæ*)—see Quercus.

Rag-weed (*Senecio jacobæa*)—see Senecio.

Rag-wort (*Senecio jacobæa*)—see Senecio.

Rain-berry (*Rhamnus catharticus*)—see Rhamnus.

Rainbow-flower (*Iris germanica*)—see Iris.

Rajah Brooke's Rhododendron (*Rhododendron Brookeanum*)—see Rhododendron.

Rajah Pitcher-plant (*Nepenthes Rajah*)—see Nepenthes.

Ramanos Rose (*Rosa rugosa alba*)—see Rosa.

Ram-of-Libya (*Paliurus aculeatus*)—see Paliurus.

Ramondia (Rosette Mullein).—*Ord.* Gesneraceæ. Hardy herbaceous perennial. Flowering. *Nat.* Pyrenees. *Int.* 1731 *Ht.* 3 to 4 in. *Species* cultivated, 1; variety, 1. *Flowers*, purple, white; Ap. to June. OUTDOOR CULTURE: two parts sandy peat, one part leaf-mould. *Position*, fisures or recesses of moist well drained shady rockeries, or in partially-shady peaty beds or borders. *Plant*, Mar. or Ap. *Water* occasionally in dry weather. *Should* not be disturbed oftener than is absolutely necessary. POT CULTURE: *Compost*, two parts peat, one part equal proportions of leaf-mould & silver sand. *Position*, shady, well-ventilated frames. *Pot*, Mar. or Ap. in 3 or 4½ in. pots. *Water* moderately, Ap. to Sept.; occasionally afterwards. *Repot* annually. *No* stimulants required. *Propagate* by seeds sown on the surface of sandy peat in well drained pots or pans under bell glass in cold shady frame or greenhouse, Mar. to May; division of plants, Mar. or Ap.

Rampion (*Campanula rapunculus*)—see Campanula.

Ram Rest-barrow (*Ononis natrix*)—see Ononis.

Ram's Horn-bean (*Dolichos bicontortus*)—see Dolichos.

Randia (Indigo-plant, Ink-berry, Ink-plant).—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* W. & E. Indies, Brazil, Peru, Cochin China, Sierra Leone. *Int.* 1733. *Ht.* 3 to 15 ft. *Species* cultivated, about 8. *Flowers*, white, yellow; fragrant; May to Aug. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or Plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom), Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell glass in temp. 75° to 85°, Jan. to Ap.

Rantry (*Pyrus aucuparia*)—see Pyrus.

Ranunculus (Crow-foot, Frog-flower, Fair Maids of France, Fair Maids of Kent, Butter-cup, Frog-wort, New Zealand Water Lily).—*Ord.* Ranunculaceæ. Hardy & half-hardy annuals; herbaceous, tuberous-rooted & aquatic perennials. *Nat.* Europe (Britain), Asia, Australia, New Zealand, & America. Turban & Persian Ranunculus (*R. asiaticus*), Syria & the Levant *Int.* (Turban & Persian), 1596. *Ht.* 3 to 18 in. *Species* cultivated, 7 annuals, 4 hardy aquatics, 24 hardy tuberous-rooted, 62 hardy herbaceous, 2 hardy evergreens, & 4 greenhouse herbaceous. *Flowers*, various; spring & sum. CULTURE OF ANNUAL SPECIES: *Soil*, ordinary. *Position*, sunny rockery or border. *Sow* seeds in Ap. where required to grow & flower. Cover lightly with fine mould, & thin to 2 or 3 in. apart when 1 in. high. *Water* freely in dry weather. CULTURE OF TUBEROUS-ROOTED SPECIES (*R. asiaticus*) & varieties the Turban, Persian, Dutch, & Scotch Ranunculus—*R. cortusæfolius*, etc.): *Soil*, two parts good sandy loam & one part decayed cow manure for fine blooms; good ordinary soil, enriched with rotten manure & leaf-mould for general culture. *Position*, open, sunny beds or borders. *Plant* Turban, Scotch, & Dutch varieties in Oct. or Nov., in warm sheltered districts; end of Feb otherwise; Persian kinds, end of Feb. *Place* tubers claw-side downwards 2 in. deep & 3 in. apart if to be grown in beds; 2 in. deep & 4 in. apart in rows 5 in. asunder if to be grown in lines in border. *Press* tubers firmly in soil & cover with fine soil. *Protect* autumn-planted tubers with mulch of manure or leaves. *Mulch* in Ap. with rotten manure or cocoanut-fibre refuse. *Water* copiously in dry weather. *Sprinkle* Peruvian guano on the bed at the rate of 1 oz. per square yard when leaves appear. *Apply* liquid manures—¼ oz. each of nitrate of soda, superphosphate, & sulphate of iron to 1 gal. of water—once a week from time leaves appear until flower buds open. *Lift* tubers when flowers fade & leaves turn yellow generally early in July—dry them in the sun, & store away in sand in cool place till planting time. Culture of Hardy Herbaceous Species (*R. aconitifolius*, etc.): *Soil*, ordinary. *Position*, shady or partially shady border. *Plant*, Oct., Nov., Mar. or Ap. *Lift*, divide, & replant in fresh soil triennially. *Mulch* annually in Mar. with decayed manure. Culture of Hardy Aquatic Species (*R. obtusifolius*, etc.): *Soil*, ordinary. *Position*, shallow ponds or ditches. *Plant*, Mar. or Ap. Culture of Hardy Evergreen Species (*R. lapponicus*): *Soil*, ordinary. *Position*, shady or partially shady borders. *Plant*, Oct., Nov., Mar., or Ap. Culture of R. Lyalli: *Soil*, sandy peat. *Position*, shady border at base of wall or fence; or in pots standing in shallow pans of water in cool frame or greenhouse. *Pot*, Feb. or Mar. *Plant*, tubers 3 in. deep & 3 in. apart in Mar. *Water* freely outdoors in dry weather, also at all times when grown in pots. *Repot* annually. *Propagate* by seeds sown as soon as ripe in autn. $\frac{1}{16}$ in. deep in boxes or pans filled with equal parts loam, leaf-mould, & sand, & placed in a cold frame or cool greenhouse; herbaceous kinds by division in Oct. or Mar.

Rape (*Brassica napus*)—see Brassica.

Raphanus (Radish).—*Ord.* Cruciferæ. Hardy annual. Esculent-rooted. Used extensively for salads. *Nat.* China. *Int.* 1548. *Species* cultivated 2; varieties several. *Flowers*, white and purple: May. *Roots*, long, round or oval, crimson & white shades. Outdoor Culture of Common Radish: *Soil*, deep, light, ordinary. *Position*, warm south border for first & last sowing; cool partially shady ones for intermediate crops. *Sow* for first crop in Feb., either broadcast or in drills 1 in. deep & 6 in. apart; successional crops in similar manner at intervals of a month until Oct. Long-rooted kinds best for spring sowing; round & oval ones for summer. *Thin* when three leaves form to 1 in. apart. *Water* copiously in dry weather. *Seeds required*, ¼ oz. for square yard, or ½ oz. for a row 50 ft. long. *Manures*: (1) ½ oz. kainit, 1 oz. sulphate of ammonia, 2 oz. superphosphate, ½ oz iron sulphate to 1 gall. of water; to be applied once a week from time seedlings are 1 in. high. (2) ½ oz. Peruvian guano to 1 gall. of water applied as No. 1. (3) ¼ oz nitrate of soda to 1 gall. of water, applied as No. 1. (4) ½ lb. of native guano per square yard, forked in before sowing. *Forcing*: Make a hot bed of manure, cover with 4 in. of fine mould, & place a frame over it. *Sow* seeds thinly, lightly cover with mould, moisten with tepid water, & keep close until seedlings appear, then admit air daily. *Thin* early to ensure good roots. *First sowing* should be made in Dec., second in Jan., third in Feb., & fourth in Mar. *Apply* stimulants as advised for outdoor kinds. *Long-rooted* varieties best for forcing. Culture of Spanish Radish: *Sow* seeds in drills 1 in. deep, & 6 in. apart in July or Aug. *Thin* seedlings when 1 in. high to 6 in. apart. *Water* freely in dry weather, & apply stimulants as directed for ordinary kinds. *Lift* roots in Nov. & store in sand in a cool shed to use as required. Culture of Rat-tailed Radish (*R. caudatus*): *Nat.* Java. *Int.* 1815. *Sow* seeds in drills 1 in. deep & 6 in. apart in Ap., May, or June. *Thin* to 6 in. apart when 1 in. high. *Gather* seed pods when grown for pickling, mixing with salads, or cooking & eating, like asparagus.

Raspberry (*Rubus idæus*)—see Rubus.

Rat-tailed Radish (*Raphanus caudatus*)—see Raphanus.

Rat's-tail Cactus (*Cereus flagelliformis*)—see Cereus.

Rattan Cane (*Calamus draco*)—see Calamus.

Rattle-root (*Cimicifuga racemosa*)—see Cimicifuga.

Rattle-snake Fern (*Botrychium virginicum*)—see Botrychium.

Rattle-snake-leaf (*Goodyera pubescens*)—see Goodyera.

Rattle-snake Plantain (*Goodyera pubescens*)—see Goodyera.

Rattle-snake-root (*Trillium latifolium*)—see Trillium.

Rattle-snake-weed (*Hieracium venosum*)—see Hieracium.

Rattle-snake's Master (*Agave virginica*)—see Agave

Ravenala (Traveller's Tree).—*Ord* Scitaminaceæ. Stove evergreen perennials. Orn. foliage. *Nat.* Madagascar. *Int.* date unknown. *Ht.* 10 to 30 ft. *Species* cultivated, 1. *Flowers*, white; sum. *Leaves*, very large, green. *Compost*, two parts good loam, one part well decayed manure, & one part sand. *Position*, pots, tubs, or beds in lofty sunny stove. *Pot* or plant, Jan. to Ap. *Water* copiously, Feb. to Oct.; about once fortnightly afterwards. *Syringe* twice daily, Feb. to Sept.; once daily, Sept. to Feb. *Moist* atmosphere essential. *Apply* stimulants twice or three times weekly, Mar. to Oct. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by suckers removed from parent plant & placed in pots in temp. 75° to 85° any time of year.

Ravenea.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, green. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, shady, moist. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.

Ravenna Grass (*Erianthus Ravannæ*)—see Erianthus.

Ray-flowered Bind-weed (*Convolvulus sepium roseum*)—see Convolvulus.

Reaumuria.—*Ord.* Tamariscineæ. Evergreen flowering shrub. *Nat.* Syria. *Int.* 1800. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple; Aug. *Soil*, equal parts sandy loam & peat. *Position*, sheltered sunny rockeries, or against S. or S.W. walls. *Plant*, Sept. to Oct., Ap. or May. *Prune* into shape only, immediately after flowering. POT CULTURE: *Compost*, equal parts fibry loam, peat, leaf-mould, & sand. *Position*, cold greenhouse, frame, or pit, Oct. to May; sunny position outdoors, May to Oct. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately other times. *Propagate* by cuttings of young side shoots, 2 to 3 in. long, inserted in small pots filled with pure sand under bell-glass, in shady position in cold greenhouse or frame, spring or sum.

Recurved-leaved Adam's Needle (*Yucca recurva*)—see Yucca.

Recurved-leaved Stonecrop (*Sedum recurvatum*)—see Sedum.

Recurved Prickly-toothed Fern (*Lastrea æmula*)—see Lastrea.

Red Alder (*Cunonia capensis*)—see Cunonia.

Red American Ash (*Fraxinus pubescens*)—see Fraxinus.

Red Bane-berry (*Actæa spicata rubra*)—see Actæa.

Red-bead Vine (*Abrus precatorius*)—see Abrus.

Red Beef-wood (*Ardisia coriacea*)—see Ardisia.

Red Beet (*Beta vulgaris*)—see Beta.

Red Birch (*Betula nigra*)—see Betula.

Red-branched Amelanchier (*Amelanchier sanguinea*)—see Amenalchier.

Red Broom-rape (*Orobanche rubra*)—see Orobanche.

Red-bud (*Cercis canadensis*)—see Cercis.

Red Californian Cedar (*Libocedrus decurrens*)—see Libocedrus.

Red Camomile (*Adonis autumnalis*)—see Adonis.

Red Castor-bean (*Ricinus sanguineus*)—see Ricinus.

Red Cedar (*Juniperus virginiana*)—see Juniperus.

Red Clover (*Trifolium pratense*)—see Trifolium.

Red Crowfoot (*Ranunculus asiaticus sanguineus*)—see Ranunculus.

Red English Elm (*Ulmus campestris stricta*)—see Ulmus.

Red Eye-bright (*Bartisia odontites*)—see Bartisia.

Red Filbert (*Corylus avellana tubulosa*)—see Corylus.

Red Fir (*Abies excelsa nigra*)—see Abies.

Red-flowered Bladder Senna (*Colutea cruenta*)—see Colutea.
Red-flowered Buck-eye (*Pavia carnea*)—see Pavia.
Red-flowered Bugloss (*Echium rubrum*)—see Echium.
Red-flowered Currant (*Ribes sanguineum*)—see Ribes.
Red-flowered Hawk's-beard (*Crepis rubra*)—see Crepis.
Red-flowered Horned-poppy (*Glaucium phœniceum*)—see Glaucium.
Red-flowered Horse Chestnut (*Æsculus rubicunda*)—see Æsculus.
Red-flowered Indian Daphne (*Daphne indica rubra*)—see Daphne.
Red-flowered Larkspur (*Delphinium grandiflorum rubrum*)—see Delphinium.
Red-flowered Mignonette (*Reseda odorata rosea*)—see Reseda.
Red-flowered Procumbent Wood-sorrel (*Oxalis corniculata rubra*)—see Oxalis.
Red-flowered Purslane (*Portulaca splendens*)—see Portulaca.
Red-flowered Strawberry-tree (*Arbutus unedo rubra*) — see Arbutus.
Red-flowered Sweet Sultan (*Centaurea moschata rubra*)—see Centaurea.
Red-fruited Bullace (*Prunus insitia fructa rubro*)—see Prunus.
Red-fruited Cotoneaster (*Cotoneaster vulgaris erythrocarpa*)—see Cotoneaster.
Red-fruited Mulberry-tree (*Morus rubra*)—see Morus.
Red Ginger (*Zingiber officinale*)—see Zingiber.
Red Globe Everlasting (*Gomphrena globosa*)—see Gomphrena.
Red-head (*Asclepias curassavica*)—see Asclepias.
Red Helleborine (*Cephalanthera rubra*)—see Cephalanthera.
Red-hot Poker-plant (*Tritoma uvaria*)—see Tritoma.
Red-ink-plant (*Phytolacca decandra*)—see Phytolacca.
Red-leaved House-leek (*Sempervivum triste*)—see Sempervivum.
Red-leaved Orach (*Atriplex hortensis rubra*)—see Atriplex
Red-leaved St. John's-wort (*Hypericum ascyron*)—see Hypericum.
Red-legs (*Polygonum bistorta*)—see Polygonum.
Red Maple (*Acer rubrum*)—see Acer.
Red Morocco (*Adonis autumnalis*)—see Adonis.
Red Nightshade (*Physalis Alkekengi*)—see Physalis.
Red Nosegay-tree (*Plumieria rubra*)—see Plumieria.
Red Oak (*Quercus rubra*)—see Quercus.
Red Osier (*Salix rubra*)—see Salix.
Red Osier Dog-wood (*Cornus stolonifera*)—see Cornus.
Red Pine-tree (*Abies rubra*)—see Abies.
Red Pottage Pea (*Ervum Lens*)—see Ervum.
Red Puccoon (*Sanguinaria canadensis*)—see Sanguinaria.
Red Rattle Grass (*Pedicularis palustris*)—see Pedicularis.
Red River Snake-root (*Aristolochia reticulata*)—see Aristolochia.
Red Rod-wood (*Eugenia axillaris*)—see Eugenia.
Red-root (*Ceanothus americanus*)—see Ceanothus.
Red-rot (*Drosera rotundifolia*)—see Drosera.
Red Sand-wort (*Arenaria rubra & Spergularia rubra*)—see Arenaria & Spergularia.
Red Side-saddle-flower (*Sarracenia rubra*)—see Sarracenia.
Red Star Lily (*Lilium concolor*)—see Lilium.
Red-stemmed Poke (*Phytolacca icosandra*)—see Phytolacca.
Red-stemmed Star-wort (*Aster rubicaulis*)—see Aster.

Red-twigged Lime-tree (*Tilia europæa rubra*)—see Tilia.

Red-twigged Red-root (*Ceanothus sanguineus*)—see Ceanothus.

Red-twigged Whortle-berry (*Vaccinium erythrinum*)—see Vaccinium.

Red Valerian (*Centranthus ruber*)—see Centranthus.

Red-veined Rhubarb (*Rheum Emodi*)—see Rheum.

Red Whortle-berry of Mount Ida (*Vaccinium vitis-idæa*)—see Vaccinium.

Red Winter Cherry (*Physalis Alkekengi*)—see Physalis.

Red-wooded Buckthorn (*Rhamnus erythroxylon*)—see Rhamnus.

Reddish-veined Ash (*Fraxinus rubicunda*,—see Fraxinus.

Reed (*Arundo phragmites*)—see Arundo.

Reed Grass (*Arundo conspicua*)—see Arundo.

Reed Mace (*Typha latifolia*)—see Typha.

Reem (*Calamus flagellum*)—see Calamus.

Reflexed Snowdrop (*Galanthus reflexus*)—see Galanthus.

Regelia.—*Ord.* Myrtaceæ. Greenhouse evergreen flowering shrub. *Nat.* W. Australia. *Int.* 1874. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, red; May to July. *Compost*, equal parts peat & loam, one-sixth sand. *Position*, large tub or border, well drained. Shoots to climb roof. *Pot* or plant, Mar. *Water* abundantly, May to Aug.; moderately afterwards. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings inserted in sandy soil in temp. 75° in Mar.

Rehmannia.—*Ord.* Scrophulariaceæ. Hardy perennial herb. *Nat.* N. China. *Int.* 1835. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple; Ap. to July. *Soil*, moist sandy peat. *Position*, partially shady borders or at base of walls running E. & W. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Mulch* liberally with cocoanut-fibre refuse or decayed manure in Ap. *In* cold districts it is best to lift plants in Oct.; place in pots & store in cold frame or pit until following Mar., then plant out. POT CULTURE: *Compost*, two parts sandy peat, one part leaf mould. *Position*, well drained pots in cold frame, pit, or greenhouse. *Pot*, Feb. or Mar. *Water* liberally, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants once a week during flowering period. *Shade* from bright sun essential *Propagate* by cuttings of stout healthy shoots, 2 to 3 in. long, in sandy soil, under bell-glass or hand-light, in cold frame or greenhouse, July to Oct.

Reidia.—*Ord.* Euphorbiaceæ. Stove orn. foliage plant. Evergreen. *Nat.* Java. *Int.* date unknown. *Ht.* 1 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, red; sum. *Leaves*, feather-shaped, glaucous; a pretty plant for table decoration. *Compost*, equal parts sandy loam & fibry peat, one part equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* morning & evening, Ap. to Sept. *Prune* into shape, Jan. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell-glass in temp. 75°, spring or sum.

Reineckea.—*Ord.* Liliaceæ. Hardy herbaceous perennial. Flowering & orn. foliage. *Nat.* China, Japan. *Int.* 1792. *Ht.* 6 in. *Species* cultivated, 1; variety, 1. *Flowers*, flesh-coloured; fragrant; Ap. *Leaves*, green, or striped with creamy yellow. *Soil*, ordinary good. *Position*, sunny rockeries or borders; variegated variety as edgings to borders. *Plant*, Mar. or Ap. *Lift*, divide, & replant every 3 or 4 years. *Water* copiously in dry weather. *Propagate* by division of creeping rhizomes in Mar. or Ap.

Rein Orchis (*Habenaria ciliaris*)—see Habenaria.

Reinwardtia (East-Indian Flax, Winter Flax).—*Ord.* Linaceæ.

Greenhouse evergreen flowering shrubs. *Nat.* India & E. Indies. *Int.* 1779. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; Oct. to Ap. *Compost*, equal parts loam & peat, little sand. *Pot*, Mar. or Ap. *Prune* previous year's shoots to within 1 in. of their base in Feb. or Mar. *Position*, warm greenhouse, Sept. to June; cold sunny frame, June to Sept. *Water* moderately, Oct. to Mar.; freely other times. *Syringe* twice daily, Feb. to Sept. *Apply* weak stimulants occasionally when in flower. *Temp.*, Sept. to Feb., 55° to 65°; Feb. to June, 65° to 75°. *Nip* off points of young shoots in June to induce bushy growth. *Propagate* by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass in temp. 65° to 75° in Ap. or May.

Renanthera.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Cochin China, Borneo. *Int.* 1816. *Ht.* 1 to 8 ft. *Species* cultivated, 2. *Flowers*, scarlet, orange-yellow; July to Nov. *Fix R. coccinea* to blocks of wood or stems of dead tree ferns by means of copper wire. *Syringe* roots twice daily, Mar. to Oct.; about once a week afterwards. *Shade* from mid-day sun.; expose fully to light other times. *Plant R. Lowi* in fresh clean sphagnum moss & charcoal in pots filled $\frac{2}{3}$ depth with charcoal & clean crocks. *Water* copiously, daily, Mar. to Oct.; about a fortnight afterwards. *Shade* from mid day sun, but otherwise keep growing in a light position. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudobulbs at potting time.

Reseda (Mignonette).—*Ord.* Resedaceæ. A sub perennial, but usually grown as an annual. *Nat.* N. Africa, Egypt. *Int.* 1752. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, red, green; Aug. OUTDOOR CULTURE; *Soil*, ordinary, containing old mortar or slaked lime. *Position*, sunny beds, borders, or rockeries. *Sow* seeds $\frac{1}{8}$ in. deep in masses or rows in Mar. or Ap. *Thin* seedlings when 1 in. high to 2 or 3 in. apart. *Water* freely in sum. *Apply* stimulants occasionally when in flower. In warm dry positions plants will survive the winter outdoors for several years. INDOOR CULTURE: *Compost*, equal parts loam, leaf-mould, dried cow manure, old mortar, & silver sand. *Sow* Mar. or Ap. for sum. flowering; July or Aug. for winter & spring. *Fill* 3-in. pots to within $\frac{1}{4}$ in. of rim, sow 5 or 6 seeds in each, cover with $\frac{1}{16}$ in. of soil, & place in temp. 55° to 65°. When seedlings are 1 to 2 in. high, transfer bodily to flowering pots (5 in.) *Pot* firmly & disturb roots as little as possible. *Water* moderately at first; freely afterwards. *Pinch* off points of main shoots when 3 in. high if abundance of bloom is required. *Apply* stimulants—$\frac{1}{4}$ oz. ammonia to 1 gall. of water—once a week from time flower spike forms till blooms expand. *Tree Mignonette*: Insert cuttings singly in 2-in. pots in spring in temp. 55° to 65°. *Transfer* to larger pots when well rooted. *Nip* off all side shoots & allow main stem to grow one or more feet high, then remove point, & let side shoots form at apex. Shorten these from time to time until bushy head is obtained, then allow blooms to form. *Water* freely in sum.; moderately in winter. *Apply* stimulants when in bloom. *Repot* annually.

Restrepia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Columbia, Costa Rica, Caraccas, Mexico, Guatemala. *Int.* 1837. *Ht.* 3 to 6 in. *Species* cultivated, about 12. *Flowers*, yellow, purple, white; all the year round. *Compost*, sphagnum moss only. *Position*, small blocks of wood suspended from roof. *Place* layer of moss on block, then roots of plant, then another layer of moss, & secure with copper wire. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* blocks 2 or 3 times daily in sum.; once daily in winter & autn. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 60°. *Propagate* by division, Feb. to Mar.

Resurrection Plant (*Selaginella lepidophylla*)—see Selaginella.

Retinospora.—*Ord.* Coniferæ. Hardy evergreen trees & shrubs. *Nat.* Japan. *Int.* 1861. *Ht.* 10 to 80 ft. *Species* cultivated, 7; varieties several. *Leaves* small, scale-like. *Habit* pyramidal, graceful. *Soil*, deep rich loam. *Position*, sheltered, on lawns or in shrubberies. *Plant*, Sept., Oct., or Nov. *Propagate* by seeds sown ½ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors a year afterwards; cuttings of young branchlets, 2 in. long, inserted in sandy soil in cold frame or under hand-light, Sept. or Oct.

Rhætian Dwarf Wallflower (*Erysimum rhæticum*)—see Erysimum.

Rhamnus (Buckthorn, Harts-thorn, Ram, Barren Privet, Californian Coffee-tree, French-berry, Way-tree, Black Alder).—*Ord.* Rhamnaceæ. Stove, greenhouse & hardy, evergreen & deciduous trees & shrubs. Hardy species only worth cultivating. *Nat.* Europe (Britain), Siberia, N. America, Azores, Asia Minor, China. *Int.* (foreign species), 1629. *Ht.* 4 to 20 ft. *Species* cultivated, 3 evergreen; 8 deciduous. *Flowers*, green; insignificant. *Fruit*, berries; black, yellow; autn. CULTURE OF STOVE AND GREENHOUSE SPECIES: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, pots indoors all the year round for stove species; pots inside from Sept. to June, & outdoors June to Sept. for greenhouse kinds. *Pot*, Feb. or Mar. *Prune*, Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Temp.* for stove species 55° to 65°, Sept. to Mar.; 70° to 80°, Mar. to Sept.; greenhouse species, 40° to 50°, Sept. to Mar.; 55° to 65°, Mar. to Sept. CULTURE OF HARDY SPECIES: *Soil*, ordinary. *Position*, sunny or shady shrubberies; good seaside shrubs. *Plant*, Oct. to Mar. *Prune*, Feb. *Propagate* stove & greenhouse species by cuttings inserted in sand under bell-glass in spring; hardy species by seeds sown outdoors in autn.; cuttings inserted outdoors in ordinary soil in Sept.; by layering in Sept. or Mar.

Rhaphiolepis (Indian Hawthorn, Japanese Hawthorn).—*Ord.* Rosaceæ. Half-hardy & hardy evergreen flowering shrubs. *Nat.* China, Japan. *Int.* 1806. *Ht.* 3 to 15 ft. *Species* cultivated, 2; varieties, 3. *Flowers*, white, pink; fragrant; Feb. to Aug. *Soil*, equal parts peat, loam, & silver sand. *Position*, S. & S.W. walls, well drained borders for half-hardy species (*R. indica*): sunny rockeries or sheltered borders for hardy species (*R. japonica*). *Plant*, Sept., Oct., or Ap. *Prune* straggling shoots into shape, Ap. *Protect* half-hardy species in severe weather with mats or straw hurdles. POT CULTURE OF HALF-HARDY SPECIES AND VARIETIES. *Compost*, as above. *Position*, well drained pots in cold greenhouse or pit, Sept. to May; sunny place outdoors, May to Sept. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *No* stimulants required. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in compost of equal parts sand, peat, & loam, under bell-glass or hand-light in cold frame, Aug. to Nov.

Rhapis (Ground Rattan Cane).—*Ord.* Palmaceæ. Greenhouse palms. Orn. foliage. *Nat.* China, Japan, Cochin China. *Int.* 1774. *Ht.* 4 to 8 ft. *Species* cultivated, 3; variety, 1. *Leaves*, fan shaped, green; variety, green striped with white. *Compost*, two parts rich loam, one part decayed leaf-mould & sand. *Position*, well drained pots in greenhouse or dwelling-room, during sum. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally during sum. *Place* small lump of sulphate of iron on surface of soil to ensure deep healthy green foliage. *Shade* from sun essential. *Syringe* twice daily in sum.: once other times. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed in Ap. or Aug.

Rhaponticum (Swiss Centaury).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Switzerland. *Int.* 1640. *Ht.* 2½ ft. *Species* cultivated, 1. *Flowers*, purple; June to Aug. *Leaves*, large, egg or heart-shaped, silvery. *Soil*, deep moist ordinary. *Position*, sunny borders or isolated specimens on lawns. *Plant*, Oct., Nov., Mar., or Ap. *Water* liberally in dry weather. *Apply* stimulants occasionally during sum. *Propagate* by division of roots in Mar.

Rheum (Rhubarb).—*Ord.* Polygonaceæ. Hardy herbaceous perennials. Edible stalked & orn. foliage plants. *Nat.* Thibet, India, China, Russia, Austria; edible rhubarb, Siberia. *Int.* edible rhubarb (*R. rhaponticum*), 1573. *Ht.* 3 to 10 ft. *Species* cultivated, 8; varieties numerous. *Flowers*, white or green; May. *Leaves*, large, hand-shaped, green. *Roots*, large, fleshy. CULTURE OF EDIBLE RHUBARB (*R. rhaponticum*): *Soil*, light deep rich. *Position*, sunny, open. *Plant* single roots with crowns 2 in. below surface, 3 ft. apart in rows 3 ft. asunder, in Nov., Feb., or Mar. *Top-dress* with manure in Nov. or Feb., forking it into surface of soil. *Lift*, divide, & replant every four years. *No stalks* should be gathered the first year. *Remove* flower stems directly they appear. *Forcing:* Cover two or more-year old crowns with pots or headless casks or tubs, & place fresh manure & tree leaves over these in Jan. or Feb., or lift strong roots & place them close together in deep boxes underneath staging in warm greenhouse, or in corners of dark cellars, in the mushroom houses, with a little soil between. *Keep* moist and dark. *Temp.*, 55° to 75°. *Forcing season*, Nov. to Feb. *Roots*, 2 to 5 years' old, best for forcing. *Reject* roots after forcing. CULTURE OF ORNAMENTAL-LEAVED SPECIES (*R. Emodi*, *R. palmatum*, *R. nobile*, etc.): *Soil*, deep, rich ordinary. *Position*, isolated specimens on lawns, wild gardens, islands; sunny. *Plant*, Nov. to Feb. *Water* copiously in dry seasons. *Apply* stimulants occasionally in sum. *Chemical Manures:* 2 oz. kainit, 2 oz. superphosphate, ¼ oz. iron sulphate to 1 gall. of water applied at intervals of a fortnight during growth (Griffiths). *Propagate* by seeds sown ⅛ in. deep in ordinary soil outdoors in Mar. or Ap.; by division of roots with crowns or buds attached, Nov. to Feb.

Rheumatism-root (*Jeffersonia diphylla*)—see Jeffersonia.

Rhexia (Deer Grass, Meadow Beauty).—*Ord.* Melastomaceæ. Hardy perennial herbs. *Nat.* Eastern N. America. *Int.* 1759. *Ht.* 6 in. to 18 ft. *Species* cultivated, 3. *Flowers*, purple; July to Sept. *Soil*, sandy peat or bog earth. *Position*, open sunny bog, swamp, or moist border. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by division of roots in Mar. or Ap.

Rhine-berry-thorn (*Rhamnus catharticus*)—see Rhamnus.

Rhipsalis.—*Ord.* Cactaceæ. Greenhouse succulent shrubs. *Nat.* Brazil, Tropical & Central America, Jamaica. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 16. *Flowers*, white, yellow, greenish; Feb. to Nov. *Compost*, equal parts sandy loam, leaf-mould, brick rubbish, & coarse silver sand. *Position*, well drained pots in light greenhouse. *Pot*, Ap. or May; pots to be drained ⅙ depth for large plants, ⅓ for small plants. *Press* compost in firmly. *Water* moderately, Ap. to Aug.; keep almost dry, Aug. to Ap. *Shade* from bright sunshine. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown ⅛ in. deep in well drained sandy soil & placed in temp. 75°, Mar.; keep soil moderately moist. By cuttings of stems inserted in small pots of sandy soil in sum.; grafting on *Cereus speciosissimus.*

Rhodanthe (Swan River Everlasting).—*Ord.* Compositæ. Half-hardy annual. *Nat.* Western Australia. *Int.* 1832. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, white, crimson, rose, yellow; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds ⅛ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap., harden off in May, & plant out in June. *Gather* blooms when fully grown, & dry thoroughly in sum. for winter decorations. POT CULTURE: *Compost*, equal parts sandy peat, leaf-mould, loam, & decayed cow-manure. *Sow* seeds thinly in shallow pan or box in temp. 55° to 65° in Sept. for spring flowering, & in Mar. for sum. blooming. *Transplant* when three leaves have formed several 1 in. apart in a 5-in. pot. *Grow* on shelf near glass. *Water* moderately at first; freely later on. *Apply* weak stimulants once a week when seedlings are 6 in. high. *Support* with neat stakes when 3 to 6 in. high. *No* shade required. *Winter temp.*, 45° to 55°

Rhodochiton.—*Ord.* Scrophulariaceæ. Greenhouse climbing herb. Evergreen. *Nat.* Mexico *Int.* 1833. *Ht.* 10 to 15 ft. *Species* cultivated, 1, *Flowers*, reddish purple; sum. *Compost*, equal parts loam & leaf-mould & half a part silver sand. *Position*, well drained pots, boxes, beds, or borders with shoots trained up trellis, walls, or rafters of sunny greenhouse. *Pot*, Mar. to May. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *Apply* stimulants occasionally during flowering period. *Shade* from bright sun. *Thin* out & shorten shoots moderately in Feb. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in ordinary light soil in temp. 50° to 60°, Mar.; transplanting seedlings when an inch high singly in 2 or 3-in. pots; cuttings of shoots inserted in sandy soil under bell-glass, in temp. 45°, Mar. to Aug.

Rhododendron (Alpine Rose). - *Ord.* Ericaceæ. Stove, greenhouse, & hardy evergreen flowering shrubs. *Nat.* India, Java, Borneo, Phillipine Islands, N. America, Siberia, Caucasus, China, Japan, Lapland, Switzerland, Asia Minor. *Int.* 1656. *Ht.* 6 in. to 25 ft. *Species* cultivated, 14 stove; 45 greenhouse; about 45 hardy; varieties numerous. *Flowers*, rose, pink, crimson, white, yellow, purple, red; mostly spring. CULTURE OF STOVE AND GREENHOUSE SPECIES, HYBRIDS, ETC.: *Compost*, two parts turfy peat, one part silver sand. *Position*, well drained pots or tubs indoors all the year round for stove kinds; pots indoors from Sept. to June; outdoors on bed of cinder ashes in sunny position; June to Sept. for greenhouse kinds. *Pot*, Ap. or May, directly after flowering. *Water* freely, Ap. to Oct.; moderately afterwards. Rain water preferable; water containing lime injurious. *Apply* a little artificial manure to surface of soil when buds show. *Repotting* only necessary every three or four years. *Temp.*, for stove species, 55° to 65° Sept. to Mar.; 70° to 80°, Mar. to Sept.; for greenhouse species, 45° to 55°, Sept. to Mar.; 55° to 65°, Mar. to Sept. CULTURE OF HARDY SPECIES: *Soil*, peat or loam free from lime; or ordinary soil mixed with peat. *Position*, open sunny borders & shrubberies for tall kinds; sunny rockeries for dwarf kinds like *R. hirsutum*, *R. chamæcistus*, *R. ferrugineum*, etc. *Plant*, Sept. to Feb. or Ap., 3 to 6 ft. apart. *Prune*, Ap. *Remove* seed pods directly flowers fade. *Water* copiously in dry weather. *Mulch* choice kinds with 2 to 3 in. of decayed manure in May. *To* ensure flowers annually, thin out flower buds freely in Ap. *Apply* liquid cow manure occasionally during sum. *Propagate* by seeds sown on surface of sandy peat, slightly covered with fine sand, placed under bell-glass in temp. 55° to 65° if stove or greenhouse kinds, in cold frame if hardy. *Cover* with bell-glass & keep moderately moist. Also by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell glass in temp. 45° to 55° at first, then 10° higher. By layering in Sept. or Mar. By grafting on common species in a close frame or propagator in Mar.

Rhodora (Canadian Rhododendron).—*Ord.* Ericaceæ. Hardy deciduous flowering shrub. *Nat.* N. America. *Int.* 1767. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, rosy purple; Ap.; appearing before the leaves. *Soil*, sandy peat. *Position*, moist sunny borders or rockeries. *Plant*, Oct. or Feb. *Prune* into shape moderately after flowering. *Propagate* by seeds, cuttings, & layering, as advised for rhododendron.

Rhodothamnus (Myrtle-leaved Rhododendron).—*Ord.* Ericaceæ. Hardy evergreen flowering shrub. *Nat.* Alps. *Int.* 1786. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, pink; May. *Soil*, equal parts peat, loam, & sand. *Position*, fissures between pieces of limestone on rockeries. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Propagate* by seeds, cuttings, & layering as advised for rhododendron.

Rhodotypos (White Kerria).—*Ord.* Rosaceæ. Hardy deciduous flowering shrub. *Nat.* Japan. *Int.* 1866. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, white; Ap. *Soil*, good ordinary. *Position*, against S. or W. walls or fences. *Plant*, Oct. to Mar. *Prune* in May or June, cutting off old or weak shoots only. POT CULTURE: *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Oct. *Place* in cold greenhouse & water moderately. *After flowering*, place plants in sunny position outdoors till Oct. *Forcing*, place plants in temp. 55° to 65° in Jan. *Water* moderately. *Transfer* plants to sunny position outdoors after flowering. *Propagate* by cuttings of young shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or hand-light or in cold frame in sum.; layering shoots in Oct.

Rhopalostylis.—*Ord.* Palmaceæ. Stove palms. Orn. foliage. *Nat.* Norfolk Island. *Int.* date unknown. *Ht.* 6 to 20 ft. *Species* cultivated, 2. *Leaves*, feather-shaped, green. *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, pots or tubs in moist shady greenhouse or conservatory. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Apply* stimulants occasionally, May to Sept. *Keep* piece of sulphate of iron on surface of soil to insure deep green foliage. *Syringe* twice daily, Ap. to Sept.; once daily afterwards. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown 1 in. deep in light sandy soil in well drained pot in temp. 75° under bell-glass or in propagator, Mar. or Ap.

Rhubarb (*Rheum rhaponticum*)—see Rheum.

Rhus (Sumach, Smoke Plant, Wig Tree, Poison Ivy, Poison Oak, Japan Lacquer or Varnish Tree, Vinegar Tree, Poison Elder, Stag's-horn Sumach).—*Ord.* Anacardiaceæ. Greenhouse & hardy deciduous trees. Flowering & orn. foliage. *Nat.* N. America, Portugal, Spain, Taurus, Cape of Good Hope, Japan, Caucasus. *Int.* 1629. *Ht.* 1 to 30 ft. *Species* cultivated, about 11 hardy; 3 greenhouse. *Flowers*, yellow, white, purple; Ap. to July. *Leaves*, entire, or once divided, green. Culture of Greenhouse Species: *Compost*, two parts sandy loam, one part leaf-mould, half a part sand. *Position*, pots in light greenhouse. *Pot*, Jan. to Feb. *Prune*, Jan. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *Temp.*, Mar. to Oct., 55° to 65°.; Oct. to Mar., 40° to 50°. Culture of Hardy Species: *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune* flowering species moderately after blooming; others in Nov. or Dec. *Propagate* greenhouse species by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass, in temp. 55° to 65° sum.; hardy species by cuttings of firm shoots, 6 to 8 in. long, inserted in ordinary soil in cold frame or under hand light, Oct. to Nov.; cuttings of roots, 2 to 3 in. long, planted 3 in. deep in sandy soil, Oct. or Nov.; layering shoots in autn.

Rhynchospermum (Chinese Jasmine, Chinese Ivy).—*Ord.* Apocynaceæ. Greenhouse evergreen climbing shrub. Flowering. *Nat.* Shanghai. *Int.* 1846. *Ht.* 10 to 15 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, white; fragrant; sum. *Compost*, equal parts peat, loam, & silver sand. *Position*, pots with shoots trained to wire trellis, or well drained beds or borders with shoots trained up pillars, rafters, or walls. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily except when flowering. *Prune* moderately after flowering. *Shade* from sun essential. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 45° to 55°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat placed under bell-glass in temp. 65° to 75°, spring or sum.

Ribbed-leaved Barberry (*Berberis nervosa*)—see Berberis.

Ribbon-grass (*Phalaris arundinacea variegata*)—see Phalaris.

Ribes (White, Red, & Black Currant, Gooseberry).—*Ord.* Saxifragaceæ. Hardy deciduous fruit bearing & flowering shrubs. *Nat.* red, white & black currant & gooseberry, Britain; other species, N America, Siberia, Russia, Nepaul, Chili. *Ht.* 6 in. to 8 ft. *Species* cultivated, 57; varieties many. *Flowers*, white, crimson, & yellow; spring. *Berries*, black, red, white. Culture of Black Currant (*R. nigrum*): *Soil*, good ordinary. *Position*, sunny. *Plant*, 5 ft. apart each way, Nov. to Feb. *Prune*, Nov. to Feb., thinning out old shoots only. *Fruit* borne on shoots of previous growth & on older ones. Culture of Red and White Currant (*R. rubrum* & *R. r. album*). *Soil*, good ordinary. *Position*, sunny for early crops; against N. walls or fences for late ones. *Plant*, Nov. to Feb., 5 to 6 ft. apart each way. *Pruning:* Allow as many current year's shoots as are required to form branches to remain, & shorten remainder to within 1 in. of their base in June or July. Shorten the selected shoots to 4, 6, or 8 in. according to shape of tree, between Nov. & Feb. Cut out old or distorted branches at same time. Keep centres of trees well open. Fruit borne on base of previous years & older shoots only. Culture of Gooseberry (*R. grossularia*): *Soil*, good ordinary. *Position*, sunny for early crops; against N. or E. walls for late crops. *Plant*, Nov. to Feb., 5 to 6 ft. apart each way. *Pruning:* Shorten all weak shoots of current year's growth to within 1 in. of base in June or July. Thin out remaining shoots in winter; shortening those left to 4 or 6 in. Shorten side shoots of trees grown against walls to 1 in. in July. *Number* of currant & gooseberry trees required to plant 1 acre at 5 ft. apart, 1,742. *Cost* per 100 trees, 10s. to 12s.; per doz., 3s. to 4s. *Manures for currants & gooseberries:* (1) Decayed cow, horse, or pig dung applied liberally in autn., & forked lightly into surface of ground. (2) 1½ oz. each of superphosphate of lime & kainit per square yard applied in autn., & 1 oz. of nitrate of soda per square yard, applied in spring. (3) 1 oz. nitrate of soda, ½ oz. each of sulphate of iron & superphosphate, to 1 gall. of water applied occasionally during sum. Culture of Flowering Currants (*R. aureum* & *R. sanguineum*): *Soil*, ordinary. *Position*, sunny. *Plant*, Oct. to Feb. *Prune* directly after flowering only. *Top-dress* with decayed manure in autn. *Propagate* by seeds sown ⅛ in. deep in ordinary fine soil outdoors in Sept. or Oct.; by cuttings 6 to 8 in. long, inserted in ordinary soil outdoors, Oct. to Feb.; by layering in autn.; suckers, Nov. to Feb.

Riccarton's Fuchsia (*Fuchsia Riccartoni*)—see Fuchsia.

Rice-flower (*Pimelea elegans*)—see Pimelea.

Rice's Acacia (*Acacia Riceana*) —see Acacia.

Richardia (Arum or Calla Lily, Lily of the Nile, Trumpet Lily).—*Ord.* Aroidaceæ. Greenhouse herbaceous perennials. *Nat.* S. Africa. *Int.* 1731. *Ht.* 1 to 5 ft. *Species* cultivated, 6; variety 1. *Flowers*, white, yellow, purple; spring & sum. Culture of R. africana (Arum Lily): *Compost*, equal parts loam, cow manure, & coarse silver sand. *Position*, greenhouse or dwelling room, Oct. to May; outdoors remainder of year. *Repot* annually in Aug. or Sept. *Water* moderately, Sept. to Mar.; freely, Mar. to May. *Apply* stimulants once a week during flowering period. *Plant* 15 in. apart in ordinary rich soil in sunny position outdoors in May, lift & repot in Aug. or Sept., singly in 5 or 6-in. pots. Supply freely with water in dry weather when outdoors. *Suitable stimulants*, ½ oz. of Peruvian guano, 1 teaspoonful of Albert's or Clay's manures, ¼ oz. nitrate of soda or sulphate of ammonia to 1 gall of water. *Temp.* Sept. to Mar., 40° to 55°; Mar. to May, 50° to 60°. Culture of R. Elliotiana, R. Pentlandi, etc.: *Compost*, same as for *R. africana*. *Position*, greenhouse, Oct. to June; cold frame remainder of year. *Repot* annually in Feb. *Water* moderately, Feb. to Ap., & Aug. to Oct.; freely, Ap. to Aug.; keep nearly dry, Oct. to Feb. *Apply* stimulants during flowering period. *Propagate* by seeds sown ⅛ in. deep in loam, leaf-mould, & sand, in temp. 65° to 75° in spring; division of plants when planting outdoors or repotting; suckers removed at potting time.

Richardson's Jacob's Ladder (*Polemonium Richardsoni*)—see Polemonium.

Rich-weed (*Collinsonia canadensis*)—see Collinsonia.

Ricinus (Castor Oil Plant, Castor Bean, Red Castor Bean, Palma Christi).—*Ord.* Euphorbiaceæ. Half hardy annual herb. Orn. foliage. *Nat.* Tropical Africa. *Int.* 1548. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties, several. *Flowers*, insignificant. *Leaves*, hand-shaped, large, green, purplish. Indoor Culture: *Sow* seeds, previously steeped for a few hours in tepid water, ½ in. deep in pots of light sandy soil in temp. of 70° to 75° in Mar., transplanting seedlings when three leaves form singly into 2-in. pots, & keep in similar temp. until well rooted, then transfer to 5 or 6-in. pots, after which remove to cool greenhouse or dwelling room. *Water* moderately. *Shade* from sun. Outdoor Culture: *Sow* seeds & transplant into small pots as above. *Transfer* to cold frame or pit in May to harden. *Plant* out, June. *Position*, sunny beds or borders.

Rigid Shield Fern (*Lastrea rigida*)—see Lastrea.

Rigid Three-branched Polypody (*Polypodium calcareum*)—see Polypodium.

Rimu-tree (*Dacrydium cupressinum*)—see Dacrydium.

Ring-flowered Pink (*Dianthus plumarius annulatus*)—see Dianthus.

Ring-worm Shrub (*Cassia alata*)—see Cassia.

River Birch (*Betula nigra*)—see Betula.

River Bull-rush (*Scirpus fluviatilis*) – see Scirpus.

River-side Windflower (*Anemone rivularis*)—see Anemone.

Riviera Bind-weed (*Convolvulus althæoides*)—see Convolvulus.

Rivina (Blood Berry, Carpenter's Herb, Rouge Berry, Rouge Plant). —*Ord.* Phytolaccaceæ. Stove evergreen berry-bearing plants. *Nat.* Caribbean Islands. *Int.* 1699. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, rose, white; June to Oct.; succeeded by scarlet or yellow berries. *Compost*, equal parts leaf-mould & sandy loam, half a part silver sand. *Position*, small well drained pots in light part of stove, Sept to June; cold sunny frames, June to Sept. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally, Oct. to Feb. *Shade* from sun. *Best* results obtained by raising plants from seed or cuttings annually. *Propagate* by seeds sown ⅛ in. deep in well drained pots or shallow pans of good light soil placed in temp. 55° to 65°, spring; cuttings of young shoots inserted in Feb., Mar. or Ap. in small pots of light sandy soil in temp. of 65° to 75°, spring.

Roan-tree (*Pyrus aucuparia*)—see Pyrus.

Roast-beef-plant (*Iris fœtidissima*)—see Iris.

Robinia (False Acacia, Rosy Acacia, Clammy Acacia, Locust Tree, Fragrant Locust Tree, Bristly Locust Tree).—*Ord.* Leguminosæ. Hardy deciduous flowering trees & shrubs. *Nat.* N. America. *Int.* 1640. *Ht* 3 to 60 ft. *Species* cultivated, about 4; varieties many. *Flowers*, rose, pink, white; May to July. *Soil*, ordinary. *Position*, sunny well drained borders & shrubberies. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb. *Rose acacia* (R. hispida) may be grown against S. or W. walls, side shoots being pruned annually to 1 in. of base, Nov. or Dec. *Propagate* choice varieties by grafting on common species (R. pseudo-acacia) in Mar.; other kinds by seeds sown ½ in. deep in ordinary soil outdoors, Nov. or Mar.; cuttings of shoots, 6 to 8 in. long, inserted in ordinary soil in sheltered position outdoors in autn.; suckers removed from parent tree & planted Oct. or Nov.; layering, Sept. or Nov.

Robinson's Iris (*Iris Robinsoniana*)—see Iris.

Rochea.—*Ord.* Crassulaceæ. Greenhouse succulent plants. *Nat.* Cape of Good Hope. *Int.* 1795. *Ht.* 1 to 8 ft. *Species* cultivated, 1. *Flowers*, crimson; June to Sept. *Compost*, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely, Ap. to Aug.; moderately, Aug. to Nov.; very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap.; seedlings to be kept close to glass & have little water; cuttings of shoots, 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Rock-brake Fern (*Allosorus crispus*)—see Allosorus.

Rock Broom (*Genista tinctoria*)—see Genista.

Rock Buckthorn (*Rhamnus saxatilis*)—see Rhamnus.
Rock Candytuft (*Iberis saxatilis*)—see Iberis.
Rock Cinquefoil (*Potentilla rupestris*)—see Potentilla.
Rock Cress (*Arabis albida*)—see Arabis.
Rock Daphne (*Daphne rupestris*)—see Daphne.
Rock Forget-me-not (*Omphalodes Luciliæ*)—see Omphalodes.
Rock Gooseberry (*Ribes saxatile*)—see Ribes.
Rock Gromwell (*Lithospermum petræum*)—see Lithospermum.
Rock Heron's-bill (*Erodium petræum*)—see Erodium.
Rock Jasmine (*Androsace chamæjasme*)—see Androsace.
Rock Knot-weed (*Polygonum vaccinifolium*)—see Polygonum.
Rock Lychnis (*Lychnis Lagascæ*)—see Lychnis.
Rock Mad-wort (*Alyssum saxatile*) - see Alyssum.
Rock Maple (*Acer saccharinum*)—see Acer.
Rock Navel-wort (*Omphalodes Luciliæ*)—see Omphalodes.
Rock Pink (*Dianthus petræus*)—see Dianthus.
Rock Purslane (*Calandrinia umbellata*)—see Calandrinia.
Rock Red Currant (*Ribes petræum*)—see Ribes.
Rock-rose (*Cistus vulgaris*) —see Cistus.
Rock Snapdragon (*Antirrhinum rupestre*)—see Antirrhinum.
Rock Soap-wort (*Saponaria ocymoides*)—see Saponaria.
Rock Speedwell (*Veronica saxatilis & V. rupestris*)—see Veronica.
Rock Stone-crop (*Sedum rupestre*)—see Sedum.
Rock Wallflower (*Erysimum pulchellum*)—see Erysimum.
Rock-wood Lily (*Ranunculus Lyallii*)—see Ranunculus.
Rock Yarrow (*Achillea rupestris*)—see Achillea.
Rocket Larkspur (*Delphinium ajacis*)—see Delphinium.
Rocky Mountain Columbine (*Aquilegia cærulea*)—see Aquilegia.
Rocky Mountain Vervain (*Verbena montana*)—see Verbena.

Rodgersia (Rodger's Bronze-leaf).—*Ord* Saxifragaceæ. Hardy herbaceous perennial. Orn. foliage. *Nat.* Japan. *Int.* 1880. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, yellow, white; June & July. *Leaves*, very large, hand-shaped, bronzy green. *Compost*, two parts peat, one part loam. *Position*, partially shaded border. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Protect* in severe weather with covering of fern fronds or litter. *Propagate* by division of rhizomes, Mar. or Ap.

Rodriguezia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Tropical America. *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, about 6. *Flowers*, yellowish, white, mauve, salmon, rose; Mar. to July. *Compost*, sphagnum moss only. *Position*, blocks of wood or baskets suspended from roof. *Place* on blocks or in baskets, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately other times. *Shade* from sun. *Moist* atmosphere very essential in sum. *Temp.*, Oct. to Feb., 50° to 60°; Feb. to Oct., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Roezl's Begonia (*Begonia Roezli*)—see Begonia.
Rogue's Gilliflower (*Hesperis matronalis*)—see Hesperis

Rohdea.—*Ord.* Liliaceæ. Hardy herbaceous perennial. Orn. foliage *Nat.* Japan. *Int.* 1783. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; June to Ap. *Leaves*, lance-shaped, green, or variegated with white. INDOOR CULTURE: *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, well drained pots in cool greenhouse, frame, or dwelling room. *Pot*, Feb. or Mar. *Water* liberally, Ap. to Oct.; moderately afterwards. *Repot* annually. *Apply* stimulants occasionally during sum. *Shade* from sun. OUTDOOR CULTURE: *Soil*, good ordinary. *Position*, sunny well drained border or rockery. *Plant*, Mar. or

Ap. *Protect* in severe weather with covering of fern or litter. *Propagate* by division of rhizomes, Mar. or Ap.

Roman Camomile (*Anthemis nobilis*)—see Anthemis.

Roman Heron's-bill (*Erodium romanum*)—see Erodium.

Roman Laurel (*Laurus nobilis*)—see Laurus.

Roman Wormwood (*Artemisia pontica*)—see Artemisia.

Romanzoffia (Sitka Water-leaf).—*Ord.* Hydrophyllaceæ. Hardy perennial herb. *Nat.* Sitka. *Int.* 1873. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, white; Ap. *Soil*, ordinary. *Position*, sunny ledges of sunny rockery. *Plant*, Mar. or Ap. *Propagate* by division, Mar. or Ap.

Romneya (White Bush Poppy).—*Ord.* Papaveraceæ. Half-hardy perennial. *Nat.* California. *Int.* 1875. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, white; sum. OUTDOOR CULTURE: *Soil*, sandy peat. *Position*, well drained elevated border at base of S. wall, or sheltered sunny rockery. *Plant*, Ap. or May. *Protect* in severe weather with covering of fern or litter. INDOOR CULTURE: *Compost*, equal parts, peat, leaf-mould, & sand. *Position*, well drained pots in light cold greenhouse. *Pot*, Mar. or Ap *Water* moderately, Ap. to Oct.; keep nearly dry afterwards. *No* stimulants required. *Repot* annually. *Propagate* by seeds sown on compost of fine sandy peat in well drained pots or pans under bell glass in temp. 55° in spring.

Romulea.—*Ord.* Iridaceæ. Greenhouse or half-hardy bulbous plants. *Nat.* Cape of Good Hope, S. Europe. *Int.* 1739. *Ht.* 6 in. *Species* cultivated, about 8. *Flowers*, yellow, violet, lilac, rose; Mar. to Aug. OUTDOOR CULTURE: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing tubers 4 in. deep & 2 in. apart. *Lift* & replant tubers annually. *Mulch* surface of bed in Mar. with cow manure. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pots*, 4½-in. in diameter, well drained. *Place* five tubers 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time plants begin to grow until flowers fade, then gradually withhold it, keeping dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for tubers.

Rondeletia.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* W. Indies, Tropical America. *Int.* 1752. *Ht.* 4 to 6 ft. *Species* cultivated, about 10. *Flowers*, white, pink, rose, yellow; fragrant; July to Sept. *Compost*, equal parts rough fibrous peat & loam, one part equal proportions charcoal lumps, & coarse silver sand. *Position*, well drained pots in light part of stove with shoots trained to sticks or trellis. *Pot*, Feb. or Mar. *Prune* moderately after flowering. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Shade* from bright sunshine. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 55°. *Propagate* by cuttings of firm shoots inserted in pure sand under bell glass in temp. 75° to 85° spring or sum.

Ronnbergia.—*Ord.* Bromeliaceæ. Stove perennial herb. Flowering & orn. foliage. *Nat.* New Granada. *Int.* 1874. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, blue; sum. *Leaves*, oblong, bright green, bordered or striped with deeper green. *Compost*, equal parts fibrous loam, rough peat, leaf-mould, & silver sand. *Pot*, Mar. *Water* freely always. Good drainage essential. *Temp.*, Sept. to Mar., 65° to 75°; Mar. to Sept., 70° to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy peat in temp. 85° in Ap.

Room-plant (*Ruellia tinctoria*)—see Ruellia.

Rooting-branched Trumpet-flower (*Tecoma radicans*)—see Tecoma.

Rosary-plant (*Abrus precatorius*)—see Abrus.

Rosa (Rose).—*Ord.* Rosaceæ. Hardy & half-hardy evergreen & deciduous trees & shrubs. *Nat.* Austrian Rose, Germany, 1596; Banksian Rose, China, 1807; Boursault, 1683; China, Monthly, or Tea-scented Rose, China, 1789; Damask Rose, Syria, 1593; Dog or Briar Rose, Britain; Evergreen Rose, 1629; French Rose, 1596; Japanese Rose, Japan, 1845; Macartney Rose, China, 1795; Musk & Noisette Rose, Bombay, 1596; Polyantha Rose, China, 1822; Provence, Moss & Cabbage Rose, Caucasus, 1595. Sweet Briar, Britain. *Ht.* 9 in. to 20 ft. *Species* cultivated, about 40; hybrids & varieties innumerable. *Flowers*, white, pink, yellow, red, & intermediate shades; all seasons; more or less fragrant. CLASSIFICATION: (a) Summer-blooming—May, June, & July.—Boursault—Example *Amadis;* Sulphurea—Ex. *Double Yellow;* Scotch; Damask—Ex. *York & Lancaster;* Provence—Ex. *Old Cabbage Rose;* Pompon—Ex. *De Meaux;* Moss—Ex. *Common Moss Rose;* French—Ex. *Village Maid;* Hybrid French—Ex. *Duchesse d'Orleans;* Hybrid Chinese—Ex. *General Jacqueminot;* Hybrid Noisette—Ex. *Madame Plantier;* Hybrid Bourbon—Ex. *Charles Lawson;* Alba—Ex. *Maiden's Blush;* Sweet Briar; Austrian Briar—Ex. *Austrian Copper;* Ayrshire—Ex. *Ruga;* Evergreen—Ex. *Félicité Perpetué;* Multiflora—Ex. *De la Grifferaie;* Polyantha—Ex. *Grandiflora;* Prairie—Ex. *Baltimore Belle;* Banksian—Ex. *White* or *Yellow Banksian.* (b) Autumn-blooming—May to Nov.—Ayrshire Perpetual—Ex. *Madame Viviand Morel;* Polyantha Perpetual—Ex. *Mignonette;* Perpetual Scotch—Ex. *Stanwell;* Perpetual Moss—Ex. *Blanche Moreau;* Macartney—Ex. *Alba Simplex;* Clynophylla—Ex. *Duplex;* Barberry-leaved—Ex. *Hardii;* Microphylla—Ex. *Ma Surprise;* Rugosa; Hybrid Perpetual - Ex. *Mrs. J. Laing;* Bourbon Perpetual—Ex. *Madame Isaac Pereire;* Bourbon—Ex. *Souvenir de Malmaison;* Rose de Rosomaine—Ex. *Geant de Batailles;* Crimson Chinese—Ex. *Sanguinea;* Chinese - Ex. *Common* or *Monthly Rose;* Fairy or Lawrenciana—Ex. *Fairy;* Tea-scented—Ex. *Gloire de Dijon;* Musk—Ex. *Double White;* Noisette—Ex. *Aimée Vibert;* Noisette Perpetual—Ex. *Madame Auguste Perrin.* Fruiting Roses:—Dog Rose (*R. canina*); Japanese Rose (*R. rugosa*); Apple bearing Rose (*R. mollis pomifera*); Sweet Briar (*R. rubiginosa*); Polyantha Rose (*R. multiflora grandiflora*). *Climbing types:* Summer-blooming—Alpine or Boursault, Banksian, Ayrshire, Evergreen, Multiflora, Hybrid Musk; autumn-blooming—Hybrid Ayrshire, Musk, Noisette, & Tea-scented. *Dwarf types:* Summer blooming—Moss, Provence, Pompon, Austrian, Hybrid Chinese, Bourbon, & Noisette, Scotch, Damask, Alba, & French; autumn-blooming—Polyantha, Macartney, Microphylla, Rugosa, Perpetual Scotch, Damask Perpetual, Barberry-leaved, Perpetual Moss, Hybrid Perpetual, Chinese, Bourbon, Noisette, & Tea-scented. CULTURE OF SUMMER ROSES: (1) *Alba Rose* (R. alba).—Hardy. Moderate growers. Dwarf. Ordinary soil, richly manured well drained bed or border; sunny sheltered position. Plant, Nov. to Mar. Prune previous year's shoots to 2 or 3 "eyes" in Mar. (2) *Alpine* or *Boursault Rose* (R. alpina).—Hardy. Vigorous climbers. Ordinary rich soil, against E. or N. walls, trellises, arbours, or pillars. Plant, Nov. to Mar. Prune in Mar., thinning out weak shoots & removing tips of strong ones. (3) *Austrian Rose* (R. lutea).—Hardy. Moderate grower. Dwarf. Ordinary soil. Sunny border. Plant, Nov. or Mar. Prune in Mar., removing tips of strong & thinning out weak shoots. (4) *Ayrshire Rose* (R. arvensis).—Hardy. Robust climber. Ordinary rich soil, E. or N. walls, trellises, etc. Plant, Nov. to Mar. Prune in Mar., as advised for No. 2. (5) *Banksian Rose* (R. Banksiæ)—Half-hardy. Climbers. Good loam liberally enriched with cow manure. Sunny south wall & well drained border. Plant, Ap. to June. Prune after flowering, removing gross shoots & tips of remainder. (6) *Cabbage* or *Provence Rose* (R. centifolia).—Hardy. Dwarf grower. Ordinary soil, liberally enriched with cow or pig manure. Sunny beds or borders. Plant, Nov. to Mar. Prune strong shoots to 3 or 4 "eyes"; moderate ones to 1 or 2 "eyes," & remove weak shoots in Mar. (7) *Damask Rose* (R. damascæna)—Hardy. Dwarf growers. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune strong shoots to 6 or 8 in.; moderate ones to 3 in., & remove weak ones in Mar. (8) *Double Yellow* (R. sulphurea).—Half-hardy. Dwarf. Deep, rich loam. Well drained border at base of south wall. Plant, Ap. to June. Prune strong shoots to 6 or 9 "eyes"; weak ones to 5 or 6 "eyes" (9) *Evergreen Rose* (R. sempervirens).—Hardy. Vigorous climber & nearly evergreen. Ordinary soil. East & north walls, pillars, trellises, etc. Plant, Nov. to Mar. Prune in Mar., thinning out weak shoots freely, & removing tips of strong ones. (10) *French Rose* (R. gallica).—Hardy. Dwarf. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune shoots to 4, 5, or 6 "eyes," according to size, & thin weak ones out well. (11) *Hybrid Bourbon* (Rosa gallica).—Hardy. Dwarf. Deep rich loam. Sunny position. Plant, Ap. Prune shoots 6 to 12 "eyes," according to size, in Mar. & thin out heads freely in Nov. (12) *Hybrid Chinese* (R. gallica var.)—Hardy. Dwarf. Require similar soil, position, & pruning to No. 11. (13) *Hybrid French* (R. gallica var.) Hardy. Dwarf. Ordinary soil & sunny position. Plant, Nov. to Mar. Prune same as No. 11. (14) *Hybrid Noisette* (Rosa gallica var.)—Hardy climber. Ordinary rich soil. Pillars, west or south walls, trellises, etc. Plant, Nov. to Mar. Prune tips of strong shoots, & thin out weak ones in Mar. (15) *Moss Rose* (R. centifolia muscosa).—Hardy. Rich soil, liberally manured. Sunny position. Plant, Nov. to Mar Prune strong shoots to 3 or 4 "eyes"; others to 1 & 2 "eyes" in Mar. (16) *Multiflora Rose* (R. multiflora).—Hardy & half-hardy climbers. Hardy kinds adapted for pillars or trellises; half-hardy for south walls. Ordinary rich soil. Plant, Ap. to June. Prune tips off the strongest shoots; shorten medium ones moderately, & remove weak ones in Ap. (17) *Polyantha Rose* (R. multiflora syn. R. polyantha).—Half-hardy climbers. Require rich soil, south wall, & sheltered position. Plant, Mar. or Ap. Prune same as No. 16. (18) *Pompon* or *Miniature Provence Rose* (R. centifolia var.)—Hardy Very dwarf. Adapted for edging to rose beds. Ordinary rich soil & sunny position. Plant, Mar. or Ap. Prune to 2 or 3 "eyes" in Ap. (19) *Prairie Rose* (R. rubifolia).—Hardy. Climber. Ordinary soil, sunny walls, trellises, or pillars. Plant, Nov. to Mar. Prune off tips of strong shoots, & thin out remainder in Mar. (20) *Scotch Rose* (R. spinosissima).—Hardy. Dwarf. Ordinary soil. Sunny banks. Plant, Nov. to Mar. Simply thin out shoots in Nov. (21) *Sweet Briar* (R. rubiginosa).—Hardy. Dwarf. Ordinary soil. Sunny borders. Plant, Nov. to Mar. Prune, Mar., thinning out weak shoots & shortening strong ones moderately. CULTURE OF AUTUMN ROSES: (22) *Ayrshire Perpetual* (R. arvensis var.)—Habit & culture similar to No. 4. (23) *Barberry-leaved Rose* (R. berberifolia).—Half-hardy. Dwarf. Ordinary soil. South wall. Plant, Ap. to June. Prune, Ap. (24) *Bourbon Rose* (B. indica Bourboniana).—Hardy. Dwarf or pillar roses. Ordinary rich soil. Sunny sheltered borders. South walls or trellises. Plant Nov. or Mar. Prune shoots of strong growing sorts one-third, & weakest two-thirds; those of moderate growth to 3 or 4 "eyes," in Ap. (25) *Bourbon Perpetual* (R. indica var.)—Hardy. Moderate growers. Ordinary rich soil. Sunny position. Plant, Nov. to Mar. Prune strong shoots to 3 or 4 "eyes"; weak ones to 1 or 2 "eyes." (26) *Chinese* or *Monthly Rose* (R. indica).—Hardy. Dwarf. Rich, well drained soil. Sunny position Plant, Ap. to June. Prune in Oct., thinning out shoots moderately; also in Ap. shortening strong shoots to a foot; moderate ones to 8 in.; weak ones to 3 in. (27) *Clynophylla Rose* (R. lucida).—Half-hardy. Moderate grower. Evergreen. Rich soil. South or west wall. Plant, Ap. to June. Prune as advised for No. 9. (28) *Crimson Chinese* (R. semperflorens).—Hardy. Climbing, & of moderate growth. Ordinary rich soil. South or south-west walls or sunny borders. Plant, Ap. to June. Prune strong shoots to 6 or 8 in.; moderate ones to 3 in.; weak ones remove altogether. (29) *Hybrid Perpetuals* (R. damascæna var.)—Hardy. Dwarf. Deep, rich soil. Sunny position. Plant, Nov. to Mar. Prune in Oct., thinning out shoots moderately; also in Mar. shortening strong shoots to 4 or 6 in.; moderate ones to 3 & 2 in. (30) *Lawrenciana* or *Fairy Rose* (R. indica Lawrenciana).—Half-hardy. Light rich soil. Sunny dryish beds or borders. Plant, Ap. to June.

Prune, Ap., shortening strong shoots one-third, & others two-thirds. (31) *Macartney Rose* (R. bracteata).—Half-hardy. Evergreen & climbing. Ordinary rich soil. South or south-west walls. Plant & prune as advised for No. 27. (32) *Microphylla Rose* (R. microphylla).—Half-hardy. Dwarf, Sandy soil. South wall, well drained border. Plant, Ap. Prune, Ap., thinning out weak shoots only. (33) *Musk Rose* (R. moschata).—Hardy. Vigorous climber. Deep rich soil. South or south-west wall. Plant, Nov. or Mar. Prune, Ap., shortening long shoots one-third, & others two-thirds. (34) *Noisette Rose* (R. moschata var.)—Hardy. Climbers. Ordinary rich soil. South or west walls, trellises, arbours, etc. Plant, Ap. to June. Prune as advised for No. 33. (35) *Noisette Perpetual Rose* (R. moschata var.)—Similar culture to No. 34. (36) *Perpetual Moss Rose* (R. centifolia).—Require same treatment as No. 15. (37) *Perpetual Scotch Rose* (R. spinosissima).—See No. 20 for cultural details. (38) *Polyantha Perpetual Rose* (R. multiflora).—See No. 17. (39) *Rosamane Rose* (R. indica).—Hardy. Dwarf. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune as advised for No. 29. (40) *Rugosa Rose* (R. rugosa).—Hardy. Evergreen. Dwarf. Ordinary soil. Sunny borders. Plant, Nov. to Ap. Prune, Ap., thinning out shoots only. (41) *Tea-scented Rose* (R. indica var.)—Hardy. Climbers & dwarf growers. Light rich soil. South walls for climbing sorts; sunny well drained beds for dwarf varieties. Plant, Ap. to June. Prune in Ap., shortening strong shoots to 6 or 8 in., moderate ones to 4 in., & thinning out weak ones. POT CULTURE OF ROSES: Classes of roses suitable for pot culture.—Hybrid Perpetual, Hybrid Chinese & Bourbon, Bourbon, Tea-scented, Polyantha, Moss, Provence, & Lawrenciana. *Compost*, two parts turfy loam, two parts decomposed cow or hotbed manure; one part of equal proportions of charred earth & sand. *Pot*, Oct. *Repot* annually in Aug. or Sept. *Prune* newly lifted & potted plants in Nov., shortening shoots to 3, 2, & 1 "eyes," according to size; established plants of hybrid perpetuals, moss, provence, bourbons, & Chinese to 6, 3, & 2 "eyes"; also tea-scented, Chinese, fairy, & polyantha kinds to 8, 6, & 4 "eyes" in Nov. for early flowering; Dec. or Jan. for late flowering. *Position*, sheltered corner outdoors, with pots protected from frost by straw, or in cold frame, Oct. to Jan.; greenhouse, Jan. to May; sunny place outdoors afterwards. *Water* moderately, Jan. to Ap.; freely, Ap. to Oct. Keep nearly dry, Oct. to Jan. *Apply* stimulants once or twice a week during flowering period. *Syringe* freely in greenhouse. *Temp.* for forcing, Jan., 40° by night & 45° by day; Feb., 45° at night & 55° by day; Mar. & onwards, 55° by night & 60° to 65° by day. *Plants for forcing* require to be established in pots one year. CULTURE OF CLIMBERS IN GREENHOUSE: *Compost*, same as for pots. *Beds or tubs* for each plant, 18 in. deep & 2 ft. wide. Each bed or tub to be provided with 3 in. of drainage. *Plant*, Sept. to Nov. or Mar. *Prune* shoots first year to within 8 in. of base at time of planting; second & future years to 6 or 8 in. immediately after flowering. *Water* freely, Mar. to Nov.; keep nearly dry afterwards. *Apply* stimulants weekly, Ap. to Sept. to established plants. *Syringe* daily in spring. *Admit* air freely in sum. & autn. to ripen shoots. SUITABLE SOLID MANURES: (1) Cow or pig dung for light, & horse dung for heavy soils, applied as a mulch in autn., & dug in in spring. (2) Blood applied in moderate quantities at any time & dug in. (3) Native guano, ½ lb. per square yard, forked in in Ap. (4) Beeson's manure, handful per plant, applied as No. 3. (5) Peruvian guano, 1 oz. per square yard, applied as No. 3. (6) Standen's manure, 1 oz. per square yard, applied in Mar. SUITABLE LIQUID MANURES: (7) ½ oz. superphosphate of lime, ¼ oz. each sulphate of iron & sulphate of ammonia to 2 galls. of water, applied once a fortnight, Ap. to Aug. to outdoor roses; once a week to pot & climbing roses indoors. (8) ½ oz. Clay's fertilizer to 1 gall. of water, applied twice a week. (9) ½ oz. sulphate of ammonia or nitrate of soda to 1 gall. of water applied once a week during flowering period to plants outdoors or in pots. STOCKS FOR ROSES: Common briar or dog rose for standards & half standards; seedling & cutting briar, manetti & de la grifferaie for dwarfs.

Best adapted for heavy soil—Dog rose, seedling, & cutting briar. *Best adapted for light soil*—Manetti & de la grifferaie. *Distance for planting*—Dwarfs, 18 in. to 2 ft.; half standards, 2½ ft.; standards, 3 ft.; climbers, 5 ft. *Depth for planting*—4 to 6 in. on heavy soils; 6 to 8 in. on light soils. *Protection in winter*—Draw soil up close to base of dwarf teas, fairy, polyantha, & China roses in Dec.; also cover shoots lightly in severe weather with bracken, litter, etc.; and plants against walls with mats. *Propagate* by seeds sown ⅛ in. deep in light sandy soil in cold frame in Mar. or Ap., or ½ in. deep in ordinary soil outdoors in Ap., transplanting seedlings when a year old; cuttings, 6 to 8 in. long, inserted in pots of sandy soil in cold frame in Oct., or in sheltered position outdoors, Sept. to Nov.; or by small side shoots of tea-scented & other kinds removed with a little of old stem attached, & inserted in small pots of light sandy soil in sum. under a bell-glass or in a propagator; by budding in July; grafting in Feb. or Mar. in a temp. 55° to 65°; layering in Sept. or Oct.

Roscoea.—*Ord.* Scitaminaceæ. Stove perennial herb. *Nat.* Himalayas. *Int.* 1820. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, purple; July. *Compost*, two parts sandy turfy loam, one part leaf-mould, & a little sand. *Position*, pots in shady part of stove. *Pot*, Feb. or Mar. *Water*, copiously, Mar. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Temp.*, Sept. to Mar., 40° to 55°; Mar. to Sept., 60° to 75°. *Propagate* by division of rhizomes, Feb. or Mar.

Rose Acacia (*Robinia hispida*)—see Robinia.

Rose Apple (*Eugenia Jambos*)—see Eugenia.

Rose-a-ruby (*Adonis autumnalis*)—see Adonis.

Rose-bay (*Nerium oleander* & *Epilobium angustifolium*)—see Nerium & Epilobium.

Rose-bay Tree (*Nerium oleander*)—see Nerium.

Rose-bay Willow-herb (*Epilobium angustifolium*)—see Epilobium.

Rose-box (*Cotoneaster microphylla*)—see Cotoneaster.

Rose Campion (*Lychnis coronaria*)—see Lychnis.

Rose-coloured Christmas Rose (*Helleborus orientalis*)—see Helleborus.

Rose-coloured Water Lily (*Nymphæa alba rosea*)—see Nymphæa.

Rose Elder (*Viburnum opulus*)—see Viburnum.

Rose-leaved Bramble (*Rubus rosæfolius*)—see Rubus.

Rosemary (*Rosmarinus officinalis*)—see Rosmarinus.

Rosemary-leaved Box Tree (*Buxus sempervirens rosmarinifolia*)—see Buxus.

Rosemary-leaved Candytuft (*Iberis rosmarinifolia*)—see Iberis.

Rosemary-leaved Gromwell (*Lithospermum rosmarinifolium*)—see Lithospermum.

Rosemary-leaved Lavender-cotton (*Santolina rosmarinifolia*)—see Santolina.

Rosemary-leaved Myrtle (*Myrtus communis mucronata*)—see Myrtus.

Rosemary-leaved Sun-rose (*Helianthemum rosmarinifolium*)—see Helianthemum.

Rosemary Oil-plant (*Rosmarinus officinalis*)—see Rosmarinus.

Rose Oil-plant (*Rosa damascena, R. centifolia, etc.*)—see Rosa.

Rose Pink (*Sabbatia angularis*)—see Sabbatia.

Rose Willow (*Salix purpurea helix*)—see Salix.

Rose-wood-tree (*Pterocarpus erinaceus*)—see Pterocarpus.

Roseate Maidenhair Fern (*Adiantum rubellum*)—see Adiantum.

Rosette Mullein (*Ramondia pyrenaica*)—see Ramondia.

Rosette Rock Cress (*Arabis Androsace*)—see Arabis.

Rosetted Saxifrage (*Saxifraga rosularis*)—see Saxifraga.

Rosin-weed (*Silphium laciniatum*)—see Silphium.

Rosy-calyxed Saxifrage (*Saxifraga calycifolia*)—see Saxifraga.

Rosy Everlasting (*Rhodanthe Manglesi maculata*)—see Rhodanthe.

Rosy-flowered Bramble (*Rubus spectabilis*)—see Rubus.

Rosy-flowered Elder (*Sambucus niger rosæflora*)—see Sambucus.

Rosy-flowered Feverfew (*Pyrethrum roseum*)—see Pyrethrum.

Rosy-flowered Garlic (*Allium roseum*)—see Allium.

Rosy-flowered Hydrangea (*Hydrangea japonica rosea*)—see Hydrangea.

Rosy-flowered Lead-wort (*Plumbago rosea*)—see Plumbago.

Rosy-flowered Loose-strife (*Lythrum salicaria roseum*) — see Lythrum.

Rosy-flowered Mountain Everlasting (*Antennaria dioica minor*) —see Antennaria.

Rosy-flowered Primrose (*Primula rosea*)—see Primula.

Rosy-flowered Rock-cress (*Arabis rosea*)—see Arabis.

Rosy-flowered Rose-mallow (*Hibiscus roseus*)—see Hibiscus.

Rosy-flowered Snow-flake (*Leucojum roseum*)—see Leucojum.

Rosy-flowered Solomon's Seal (*Polygonatum roseum*)—see Polygonatum.

Rosy-flowered Stone-crop (*Sedum roseum & S. rhodanthum*)—see Sedum.

Rosy-flowered Sun-rose (*Helianthemum roseum*)—see Helianthemum.

Rosy-flowered Wood-sorrel (*Oxalis rosea*)—see Oxalis.

Rosy Zephyr flower (*Zephyranthes rosea*)—see Zephyranthes.

Rot Grass (*Pinguicula vulgaris*)—see Pinguicula.

Rouge-berry (*Rivina humilis*)—see Rivina.

Rouge-plant (*Rivina humilis*)—see Rivina.

Rough-leaved Cow Parsnip (*Heracleum elegans*)—see Heracleum.

Rough-leaved Sunflower (*Helianthus rigidus*)—see Helianthus.

Rough-leaved Wych Elm (*Ulmus montana rugosa*)—see Ulmus.

Round-headed Horned-Rampion (*Phyteuma orbiculare*) — see Phyteuma.

Round-headed Purple Primrose (*Primula purpurea*)—see Primula.

Round-leaved Box Tree (*Buxus sempervirens rotundifolia*)—see Buxus.

Round-leaved Cotoneaster (*Cotoneaster rotundifolia*)—see Cotoneaster.

Round-leaved Cyclamen (*Cyclamen coum*)—see Cyclamen.

Round-leaved Maple (*Acer circinatum*)—see Acer.

Round-leaved Rest-harrow (*Ononis rotundifolia*)—see Ononis.

Round-leaved Saxifrage (*Saxifraga rotundifolia*)—see Saxifraga.

Round-leaved Stone-crop (*Sedum rotundifolium*)—see Sedum.

Round-leaved Violet (*Viola rotundifolia*)—see Viola.

Round-seeded Spinach (*Spinacia oleracea glabra*)—see Spinacia.

Roupala.—*Ord.* Proteaceæ. Greenhouse evergreen shrubs. Orn. foliage & flowering. *Nat.* S. America. *Int.* 1802. *Ht.* 6 to 24 ft. *Species* cultivated, 8. *Flowers*, yellow, orange; fragrant; Ap. to May. *Leaves*, simple or feather-shaped, covered with brownish wool. *Compost*, equal parts fibrous loam, leaf-mould, peat, & little sand. *Position*, large pots or tubs in lofty sunny greenhouse or conservatory. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *No* syringing required. *Temp.*, Sept.

to Mar., 45° to 50°; Mar. to Sept., 55° to 65°. *May* be stood outdoors in sunny position, June to Sept. *Propagate* by cuttings of firm shoots, inserted in pure silver sand, in well drained pots, under bell-glass in temp. 55° to 65°, sum.

Rowan-tree (*Pyrus aucuparia*)—see Pyrus.

Royal Brunswick Lily (*Brunsvigia Josephinæ*)—see Brunsvigia.

Royal Fern (*Osmunda regalis*)—see Osmunda.

Royal Water-lily (*Victoria regia*)—see Victoria.

Royle's Flea-bane (*Erigeron Roylei*)—see Erigeron.

Rubber-plant (*Ficus elastica*)—see Ficus.

Rubus (Raspberry, Bramble, Blackberry, Salmon-berry, Dewberry, Cloudberry).—*Ord.* Rosaceæ. Greenhouse evergreen flowering shrubs, hardy deciduous berry-bearing shrubs & herbaceous perennials. *Nat.*, Raspberry, Cloudberry, Dewberry, & Blackberry - Britain; other species, S. & N. America, India, Australia, Europe, Japan, Palestine, Madagascar, & Mauritius. *Ht.* 2 in. to 10 ft. *Species* cultivated, 11 greenhouse; 12 hardy evergreen; 63 deciduous; 4 hardy herbaceous. *Flowers*, white, pink; May to Sept. *Fruit*, black, white, red, or yellow; autn. Culture of Raspberry (*R. Idæus*): *Soil*, deep, rich moist loam, light ordinary or peaty; clay soils unsuitable. *Position*, open sunny, or partially shady one. *Plant*, Oct. to Mar. *Distances for planting*: Singly, 2 ft. apart in the row, & 5 ft. between the rows for training to wire trellis; in groups of three canes, 3 ft. apart in row, & 5 ft. between rows; singly 1 ft. apart in rows 4 ft. asunder for field culture. *Quantity of canes* required to plant 1 acre -10,890. *Approximate cost*: per 100, 18s. to 24s.; per doz., 2s. to 2s. 6d. *Pruning*: Cut canes off to within 6 in. of ground first year; succeeding years, cut off old canes immediately after fruiting close to ground, & reduce number of young canes at each root or stool to three or four of the strongest. Remove tips of latter in Nov. or Dec. *Apply* decayed manure annually in Nov., forking it in 3 in. deep only. *Mulch* with littery manure in Ap. on dry soil. *Water* copiously with liquid manure during bearing period. *Remove* suckers appearing away from base of "stools." Avoid deep digging. *Chemical manures*: (1) 1½ oz. each of superphosphate of lime & kainit per square yard forked in 2 in. deep in Nov., & 1 oz. of nitrate of soda per square yard applied in Mar. (2) 1½ lb. superphosphate of lime, 1½ lb of nitrate of soda, 1 lb. of kainit, 3 lbs. common salt per square rod, half applied in Mar., remainder in June. (3) Two parts by weight of nitrate of soda, 1 part superphosphate, 1 part kainit, to be applied at the rate of 2 lbs. per 100 canes in Oct. or Nov. (Griffiths). Culture of American Blackberry (*R. fruticosus* & varieties): *Soil*, deep rich loam, liberally mixed with old mortar. *Position*, open, sunny. *Plant*, Oct. to Mar. 1 ft. apart in rows 4 ft. asunder. Train shoots to stout wire or wood trellis. *Pruning*: Shorten shoots to within 6 in. of base first year; afterwards cut away old-bearing shoots, & shorten current year's one fourth in Nov. or Dec. *Manures*: Same as advised for raspberry. Culture of Cloudberry (*R. chamæmorus*) & Dewberry (*R. cæsius*): *Soil*, peaty. *Position*, sunny rockery. *Plant*, Oct., Nov. or Mar. *Water* freely in sum. Culture of Hardy Herbaceous Species (*R. arcticus*, etc.): *Soil*, two parts peat, one part loam & sand. *Position*, moist shady rockery. *Plant*, Oct., Nov., Mar. or Ap. *Water* freely in dry positions in sum. Culture of Hardy Deciduous Species (*R. canadensis*, *R. odoratus*, etc.): *Soil*, ordinary. *Position*, shady or sunny borders or shrubberies. *Plant*, Oct. to Mar. *Prune*, Dec., cutting away old flowering stems. Culture of Greenhouse Species (*R. rosæflorus*, etc.): *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, pots in sunny greenhouse, Sept. to June; outdoors remainder of year. *Pot*, Jan. or Feb. *Prune*, Jan. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply weak stimulants* when in bloom. *Temp.*, Sept. to Mar., 40° to 50°, Mar. to June, 55° to 65°. *Propagate* raspberries by seeds sown ⅛ in. deep in a shady border as soon as ripe, or in shallow pans filled with sandy peat & leaf-mould in a cold frame; by suckers or offsets removed & replanted in Nov. Blackberries by seeds as advised for raspberries; also by suckers & layers in Oct. or Nov. Dewberries, Cloudberries & hardy herbaceous species by division, Oct. to May. Greenhouse species by division in Jan. or Feb.; cuttings of roots 2 in. long inserted in sandy peat in spring.

Rudbeckia (Cone-flower).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1793. *Ht.* 2 to 6 ft. *Species* cultivated, about 9. *Flowers*, yellow, orange; June to Oct. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure annually, Feb. or Mar. *Lift*, divide, & replant in fresh position triennially. *Propagate* by seeds sown ⅛ in. deep outdoors in ordinary soil & sunny position, Mar. or Ap., transplanting seedlings in flowering positions following autn.; by division of roots, Oct., Nov., Mar. or Ap.

Rue (*Ruta graveolens*)—see Ruta.

Rue-anemone (*Thalictrum anemonoides*)—see Thalictrum.

Rue-leaved Saxifrage (*Saxifraga tridactylites*)—see Saxifraga.

Rue-leaved Spleen-wort (*Asplenium ruta-muraria*)—see Asplenium.

Rue Oil-plant (*Ruta graveolens*)—see Fraxinus.

Ruellia (Christmas Pride).—*Ord.* Acanthaceæ. Stove perennial herbs or shrubs. *Nat.* Brazil, W. Africa, Buenos Ayres, Mexico, W. Indies, Peru. *Int.* 1768. *Ht.* 1 to 4 ft. *Species* cultivated, 18. *Flowers*, violet, lilac, white, red, yellow, orange; spring, sum., & autn. *Compost*, equal parts fibrous loam, leaf-mould, peat, & silver sand. *Pot*, Feb. or Mar. *Position*, pots in shady part of stove. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily other times. *Apply* weak stimulants during flowering period to perennial species. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings inserted in above compost in well drained pots under bell-glass, or in propagator in temp. 75° to 85°, spring or sum.

Rumex (Herb Patience, Sorrel).—*Ord.* Polygonaceæ. Hardy perennial herbs. *Nat.* Herb Patience, Italy; Common Sorrel, Britain. *Int.* 1573. *Ht.* 6 in. to 6 ft. *Species* cultivated, 2; varieties several. *Flowers*, green, insignificant. *Leaves*, green, used as a substitute for spinach. CULTURE OF HERB PATIENCE (*R. patienta*): *Soil*, ordinary moist. *Position*, open garden. *Plant* 1 ft. apart in rows 18 in. asunder in Mar. *Remove* flower stems directly they appear, & gather leaves frequently. *Propagate* by seeds sown in Mar. 1 in. deep in drills 18 in. apart, thinning seedlings to 1 ft. apart in row in Ap.; division of roots in Mar. CULTURE OF SORREL (*R. acetosa*): *Soil*, ordinary rich moist. *Position*, open borders. *Plant*, 1 ft. apart in rows 15 in. asunder in Mar. *Gather* leaves frequently. *Remove* flower stems. *Water* freely in dry weather. *Propagate* by seeds ½ in. deep in drills 15 in. apart in Mar., thinning seedlings to 12 in. apart in Ap.; division of roots in Mar.

Running Oak (*Quercus sericea*)—see Quercus.

Rupture-wort (*Herniaria glabra*)—see Herniaria.

Ruscus (Butcher's Broom, Box Holly, Jew's Myrtle, Knee Holly, Pettigrue, Prickly Box, Double-leaved Butcher's Broom, Double-Tongue, Alexandrian Laurel, Shepherd's Myrtle).—*Ord.* Liliaceæ. Hardy evergreen shrubs. Orn. leaved & berry-bearing. *Nat.* Europe (Britain), N. Africa, Mediterranean. *Int.* (foreign species) 1640. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Leaves* (cladodes), oval, dark green. *Berries*, round, red; winter. *Soil*, ordinary. *Position*, shady or sunny shrubberies, borders, or woods. *Plant*, Sept., Oct., or Ap. *Prune*, Ap. *Propagate* by suckers removed from parent plants in Sept. or Oct.; division of roots in Oct.

Rush Broom (*Spartium junceum*)—see Spartium.

Rush-leaved Daffodil (*Narcissus juncifolius* & *N. triandrus*)—see Narcissus.

Rush-leaved Iris (*Iris juncea*)—see Iris.

Rush-Lily (*Sisyrinchium grandiflorum*)—see Sisyrinchium.

Rush Nut (*Cyperus esculentus*)—see Cyperus.

Russelia.—*Ord.* Scrophulariaceæ. Stove evergreen shrubs. Flowering. *Nat.* Mexico, Central America. *Int.* 1812. *Ht.* 3 to 4 ft. *Species* cultivated, 3. *Flowers*, red; June to July. *Compost*, equal parts sandy loam, leaf-mould, & silver sand. *Position* in light part of stove. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Prune*, Feb. *Apply* weak stimulants when in flower only. *Syringe* twice daily, Ap. to Oct., except when in flower. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°.

Russian Bast Tree (*Tilia europœa*)—see Tilia.

Russian Box Thorn (*Lycium ruthencium*)—see Lycium.

Russian Cedar (*Pinus cembra*)—see Pinus.

Russian House-leek (*Sempervivum ruthenicum*)—see Sempervivum.

Russian Iris (*Iris ruthenica*)—see Iris.

Russian Knap-weed (*Centaurea ruthenica*)—see Centaurea.

Russian Lily (*Lilium pulchellum*)—see Lilium.

Russian Pink (*Dianthus ruthenicus*)—see Dianthus.

Rusty-back (*Blechnum spicant* & *Ceterach officinarum*)—see Blechnum & Ceterach.

Rusty-leaved Rhododendron (*Rhododendron ferrugineum*)—see Rhododendron.

Ruta (Rue).—*Ord.* Rutaceæ. Hardy evergreen shrub *Nat.* S. Europe. *Int.* 1562. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, yellow; sum. *Leaves*, finely divided, bluish green; used for medicinal purposes. *Soil*, ordinary. *Position*, sunny border. *Plant*, Mar., 8 in. apart in rows 18 in. asunder. *Prune* the plants closely in Ap. *Propagate* by seeds sown ¼ in. deep in drills outdoors in Ap.; cuttings or slips inserted in shady border in sum.

Saar's Iris (*Iris Saari*)—see Iris.

Sabal (Thatch Palm, Palmetti Palm).—*Ord.* Palmaceæ. Stove orn. leaved palms. *Nat.* S. U.S.A., Bermudas, W. Indies. *Int.* 1810. *Ht.* 6 to 20 ft. *Species* cultivated, 6. *Leaves*, fan-shaped, green. *Compost*, two parts rich loam, one part decayed leaf mould & sand. *Position*, well drained pots in greenhouse or sheltered well drained beds outdoors in S. of England. *Pot*, Mar. *Plant*, Ap. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 50° to 60°. *Water* moderately in winter; freely in sum. *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed from parent plant in Ap. or Aug.

Sabbatia (American Centaury, Rose Pink).—*Ord.* Gentianaceæ. Hardy biennial flowering herbs. *Nat.* N. America. *Int.* 1812. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, pink, rose, purple; sum. *Soil*, equal parts good fibrous loam & finely sifted leaf-mould & little sand. *Position*, moist partially shaded borders or bogs. *Sow* seeds thinly in Ap. where required to grow, lightly cover with soil, thin to 3 or 4 in. apart when an inch high to flower following sum.; or sow seed 1/16 in. deep in well drained pots or shallow pans filled with equal parts sandy peat & leaf-mould; place in a pan partially filled with water & placed in cold frame or greenhouse. Transplant seedlings when an inch high three in a 2-in. pot, in similar compost, keep in cold frame till following Mar., then plant out.

Sabino-tree (*Taxodium distichum*)—see Taxodium.

Saccharum (Sugar Cane).—*Ord.* Graminaceæ. Stove & hardy perennial grasses, flowering, & orn. foliage. *Nat.* Sugar Cane (*S. officinarum*), E. Indies; *S. ægyptiacum*, Algeria. *Int.* Sugar Cane, 1597. *Ht.* 7 to 10 ft.

Species cultivated, 2. *Inflorescence*, silky, borne in pyramidal panicles, July. *Leaves*, ribbon-like, green, covered with silky hairs. CULTURE OF SUGAR CANE (*S. officinarum*): two parts rich loam, one part leaf-mould or rotten manure & little sand. *Position*, large pots or tubs in lofty stoves. *Pot*, Feb or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* twice daily during spring & sum. *Shade* from mid-day sun essential. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. CULTURE OF S. ÆGYPTIACUM: *Soil*, good ordinary. *Position*, margins of beds or lakes, sheltered. *Plant*, May or June. *Propagate* sugar cane by cuttings of stems inserted in light soil in temp. of 70° to 80° in spring, or by suckers removed in Feb. or Mar., & potted singly in above compost. *S. ægyptiacum* by division of roots in Mar. or Ap.

Saccolabium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* E. Indies & Malayan Archipelago. *Int.* 1837. *Ht.* 6 to 18 in. *Species* cultivated, about 18; varieties several. *Flowers*, yellow, white, purple, brown, red, rose, violet; more or less fragrant; spring & sum. *Compost*, sphagnum moss, charcoal, & broken potsherds. *Position*, hanging baskets or attached to pieces of wood, or in pots filled to rim with charcoal & potsherds & remainder living sphagnum moss. *Grow* near glass always. *Pot*, or fix to blocks in Jan. or Feb. *Water* plants grown on blocks copiously twice daily, Mar. to Sept.; once daily afterwards; those in baskets copiously, Ap. to Sept.; moderately afterwards. *Shade* from mid-day. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Avoid* allowing moisture to fall on leaves in winter. Moist atmosphere essential. *Growing period*, Mar. to Nov.; *resting period*, Nov. to Mar. *Propagate* by offsets any time.

Sachalin Knot-weed (*Polygonum sachalinense*)—see Polygonum.

Sacred Bean (*Nelumbium speciosum*)—see Nelumbium.

Sacred Fig Tree (*Ficus religiosa*)—see Ficus.

Sacred Silver Fir (*Picea religiosa*)—see Picea.

Sad-coloured Sword-lily (*Gladiolus tristis*)—see Gladiolus.

Sad-flowered Iris (*Iris Susiana*)—see Iris.

Saddle-tree (*Liriodendron tulipiferum*)—see Liriodendron.

Sadleria.—*Ord.* Filices. Stove tree fern. *Nat.* Sandwich Islands. *Int.* 1877. *Ht.* 5 to 8 ft. Fronds, feather-shaped. *Species* cultivated, 1. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs, well drained, in shady stove or warm conservatory. *Repot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* trunks daily, Mar. to Sept. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans; cover with sheet of glass, & keep moist in shady position in temp. 75° to 85°.

Saffron Crocus (*Crocus sativus*)—see Crocus.

Saffron-flowered Saxifrage (*Saxifraga mutata*)—see Saxifraga.

Saffron Thistle (*Carthamus tinctorius*)—see Carthamus.

Sage (*Salvia officinalis*)—see Salvia.

Sagina (Pearl-weed, Pearl-wort).—*Ord.* Caryophyllaceæ. Hardy perennial herb. Orn. foliage & flowering; evergreen. *Nat.* Corsica. *Int.* 1826. *Ht.* 2 in. *Species* cultivated, 1; variety 1. *Flowers*, white; July to Aug. *Leaves*, narrow, green or golden yellow. *Stems*, creeping. *S. glabra* used as a substitute for grass for forming lawns on sandy soils. *S. g. aurea*, golden yellow foliage, used for carpet bedding. CULTURE OF S. GLABRA ON LAWNS: *Soil*, sandy. *Position*, sunny. *Plant* small tufts 3 in. apart each way in Mar. or Ap. Keep free from weeds & roll frequently. Requires frequent renewal. CULTURE OF S. G. AUREA: *Soil*, ordinary. *Position*, sunny beds, borders, or rockeries. *Plant* small tufts in Mar., 2 in. apart, in lines, designs, or masses. *Propagate* by seeds sown in sandy soil in sunny position outdoors in Mar.; by division in Mar. or Ap.

Sagittaria (Arrow-head).—*Ord.* Alismaceæ. Hardy perennial aquatic herbs. *Nat.* Europe (Britain), N. America. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, white; June & July. *Compost*, two parts strong rich loam, one part well decayed manure. *Position*, open sunny ponds or lakes. *Depth* of water, 2 to 3 ft. *Plant*, Mar. to Oct. *Methods of planting:* (1) Place plant in small wicker basket containing above compost, & lower to the bottom of pond or lake. (2) Inclose roots with soil & large stone in piece of canvas or matting, tie securely & immerse as above. (3) Place large hillock or mound of compost at bottom of pond when dry & plant roots in centre, afterwards submerging with water. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in rich soil in shallow basket & immersed in ponds or lakes in spring; division of plants, Mar. or Ap.

Sago Palm (*Cycas circinalis*)—see Cycas.

Sainfoin (*Onobrychis sativa*).—see Onobrychis.

St. Bernard's Lily (*Anthericum liliago*)—see Anthericum.

St. Bruno's Lily (*Anthericum liliastrum*)—see Anthericum.

St. Dabeoc's Heath (*Menzesia polifolia*)—see Menzesia.

St. Helena Fleabane (*Conyza rugosa*)—see Conyza.

St. James's Cross Lily (*Amaryllis formosissima*)—see Amaryllis.

St. James's Flower (*Lotus Jacobæus*)—see Lotus.

St. John's-Wort (*Hypericum calycinum*)—see Hypericum.

St. Joseph of Arimathea's Thorn (*Cratægus oxyacantha præcox*) —see Cratægus.

St. Julian's Cherry (*Cerasus juliana*)—see Cerasus.

St. Patrick's Cabbage (*Saxifraga umbrosa*)—see Saxifraga.

St. Vincent's Rocks Stonecrop (*Sedum rupestre*)—see Sedum.

Salad Burnet (*Poterium sanguisorba*)—see Poterium.

Salal-bush (*Gaultheria shallon*)—see Gaultheria.

Salep Orchid (*Orchis mascula*)—see Orchis.

Salix (Willow, Sallow, Osier, Withy).—*Ord.* Salicineæ. Hardy deciduous & evergreen trees and shrubs. Orn. foliage. *Nat.* Britain, Europe, N. America, Levant. *Ht.* 6 in. to 40 ft. *Species* cultivated, 2 evergreen; 200 deciduous. *Flowers*, borne in catkins, spring. *Bark*, yellow, purple, red, whitish, or orange coloured. *Shoots* more or less drooping. *Soil*, ordinary heavy or moderately heavy; lightl soils not suitable. *Position*, damp, near margins of ponds, etc., for tall species; moist rockeries for creeping species —*S. herbacea*, *S. lanata*, *S. serpyllifolia*, *S. retusa*, *S. reticulata*, etc. *Plant*, Oct. to Mar. *Prune*, Nov. to Feb. *Propagate* by cuttings of shoots or stems of any age or size, inserted in moist soil, Oct. to Mar.; choice kinds by budding on the Goat Willow (*S. caprea*) in July, bandaging the bud with damp moss, or by grafting on a similar stock in Mar.

Sallow (*Salix caprea & S. cinerea*)—see Salix.

Salmon-berry (*Rubus spectabilis* & *R. nutkanus*)—see Rubus.

Salsafy (*Tragopogon porrifolius*)—see Tragopogon.

Salvia (Sage, Clary).—*Ord.* Labiatæ. Greenhouse & hardy annuals & herbaceous perennials & evergreen shrubs. *Nat.* Common Sage & Clary, S. Europe; other species, chiefly Mexico, N. America, Cape of Good Hope, Central America, India, West Indies, Britain. *Int.* Common Sage, 1597; Clary, 1562. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 150. *Flowers*, blue, purple, violet, scarlet, rose, crimson, yellow; May to Dec. CULTURE OF STOVE ANNUAL SPECIES: *Compost*, equal parts leaf-mould, decayed manure, loam, & sand. *Sow* seeds $\frac{1}{16}$ in. deep in shallow pans or well drained pots in temp. 65° in Feb. or Mar. *Transplant* seedlings when three leaves form, place 5 in a $4\frac{1}{2}$-in. pot. *Water* freely. *Shade* from sun. *Apply* weak stimulants when in flower. *Temp.* 65° to 75°. CULTURE OF HARDY ANNUAL SPECIES (S horminum, etc.): *Soil*, ordinary rich. *Position*, sunny borders. *Sow* seeds $\frac{1}{8}$ in. deep in Ap. where required to flower, & thin to 4 or 6 in. apart when 2 in. high.

CULTURE OF GREENHOUSE EVERGREEN SPECIES (S. Bethelli, S. fulgens, S. gesneræflora, S. patens, etc.): *Compost*, equal parts loam & decayed manure, little sand. *Position*, greenhouse, Sept. to June; cold frame, June to Sept. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally a month after repotting until flowers expand, then cease. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Cut* down shoots to within 3 in. of their base after flowering. *Young plants*: Insert cuttings 3 in. long of young shoots in light sandy soil in temp. 65° in Feb. or Mar. When rooted, place singly in 3½ in.-pots. *Nip* off point of main shoots, also of succeeding shoots when 3 in. long. *Shift* into 5 or 6 in. pots when former pots are filled with roots. *Water* freely. *Apply* stimulants occasionally. Place in cold frame, June to Sept. CULTURE OF GREENHOUSE HERBACEOUS SPECIES (S. coccinea, S. Grahami, S. rutilans, etc.): Same as advised for evergreen species. OUTDOOR CULTURE OF S. PATENS, S. SPLENDENS, S. GESNERÆFLORA, S. RUTILANS, S. FULGENS: *Soil*, rich ordinary. *Position*, sunny sheltered beds or borders. *Plant*, June. *Lift* in Sept., place in pots to flower in greenhouse in autn. *Water* freely in dry weather. *Apply* stimulants once a week. CULTURE OF HARDY HERBACEOUS SPECIES (S. pratensis, S. argentea, S. candelabrum, etc.): *Soil*, ordinary rich. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* annually with decayed manure in Mar. *Cut* down stems close to ground in Oct. *Lift*, divide, & replant every third year. CULTURE OF CLARY (S. sclarea): Hardy biennial. Leaves used for flavouring soups. Pretty border plant also. *Soil*, ordinary. *Position*, sunny. *Sow* seeds 1 in. deep in drills 18 in. apart in Ap. *Thin* seedlings when 2 in. high to 12 in. apart in row. *Gather* leaves for use following year. CULTURE OF SAGE (S. officinalis): *Soil*, ordinary rich, light, dryish. *Position*, sunny. *Plant*, Mar. or Ap., 12 in. apart in rows 18 in. asunder. *Nip* off points of shoots first year to induce bushy growth. *Water* freely in dry weather first year after planting. *Renew* plantation every four years *Propagate* greenhouse herbaceous and evergreen species by cuttings 2 to 3 in. long of young shoots inserted **in** sandy soil in temp. 65° in spring; sage by seeds sown $\frac{3}{16}$ in. deep in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May or June, also by slips, *i.e.*, young shoots pulled off the old plants in Ap., & inserted in a shady border or under a hand-light, or in a cold frame, & kept moist until rooted.

Salisburia (Maidenhair-tree, Ginkgo-tree).—*Ord.* Coniferæ. Hardy deciduous coniferous tree. Orn. foliage. *Nat.* Northern China. *Int.* 1754. *Ht.* 60 to 80 ft. *Species* cultivated, 1; varieties, 3. *Flowers*, male & female borne on separate trees; spring. *Fruit*, small, globular; edible. *Leaves*, fan-shaped; green & variegated. *Soil*, ordinary well drained. *Position*, sheltered shrubberies or lawns S. of England, against south or west walls other parts. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in pans of light sandy soil in cold frame, Oct. or Mar.

Salpiglossis (Scalloped Tube-tongue).—*Ord.* Solanaceæ. Half-hardy annual. *Nat.* Chili. *Int.* 1820. *Ht.* 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, variously coloured; June to Sept. OUTDOOR CULTURE: *Soil*, sandy loam or good ordinary rich. *Position*, sunny beds or borders. *Sow* seeds in well drained pots, pans, or shallow boxes filled with compost of equal parts loam, leaf-mould & sand placed in temp. of 65° to 75°, Feb. or Mar. *Cover* seeds with thin sprinkling of fine soil. *Transplant* seedlings when three leaves have formed ½ in. apart in well drained pots or shallow boxes of above compost. *Keep* in temp. of 55° to 65° till May, then place in cold frame to harden, & plant out in June. *Water* freely in dry weather. *Apply* weak stimulants occasionally to plants in flower. INDOOR CULTURE: *Compost*: two parts sandy loam, half a part each of leaf-mould & decayed cow manure & silver sand. *Sow* seeds as advised above for sum. flowering; in Aug. or Sept. for spring flowering. *Transplant* seedlings when three leaves have formed, 3 in a 2½-in pot, & place on shelf close to glass in temp. 55° to

65°. When well rooted in small pots, shift into 5-in. size. *Water* moderately until plants are well established. *Apply* stimulants—¼ oz. of kainit, superphsophate of lime, & nitrate of soda to 2 galls. of water—once a week during flowering period. *Nip* off points of main shoots when 6 in. high to induce bushy growth. *Place* in cool greenhouse or window whilst in bloom.

Sambucus (Elder, Dane-wort).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs & herbaceous perennials. *Nat.* Common Elder (*S. nigrum*) & herbaceous elder (*S. ebulus*), Britain; *S. racemosa*, S. Europe. *Int.* (*S. racemosa*), 1596. *Ht.* 2 to 15 ft. *Species* cultivated, 1 hardy herbaceous; 2 shrubs; varieties many. *Flowers*, white, pink, green, yellow; May to July *Berries*, black or scarlet. *Leaves*, feather-shaped, green, golden or white. CULTURE OF HERBACEOUS SPECIES (*S. ebulus*): *Soil*, ordinary. *Position*, dry banks or shubberies in sun or shade. *Plant*, Oct. to Feb. *Cut* down stems in Nov. CULTURE OF SHRUBBY SPECIES (*S. nigra*, *S. racemosa*, & silver & golden-leaved varieties): *Soil*, ordinary. *Position*, open shrubbery, hedgerows for common species; moist sunny borders for variegated kinds. *Plant*, Oct. to Mar. *Prune* into shape, Nov. to Jan. *Nip* off points of young shoots of golden & silver elders during sum. to insure dwarf growth & rich colouring in foliage. *Propagate* herbaceous species by division, Oct. to Mar.; shrubby species by cuttings of branches or shoots inserted in moist soil in any position outdoors, Oct. to Mar.

Sambul Plant (*Ferula sambul*)—see Ferula.

Samolus (Tasmanian Water Pimpernel)—*Ord.* Primulaceæ. Hardy herbaceous perennial. *Nat.* Australia. *Int.* 1800. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, pink; Aug. *Soil*, sandy peat. *Position*, moist bog or rockery. *Plant*, Mar. or Ap. *Water* freely in dry weather in sum. *Propagate* by division of the roots in spring.

Samphire (*Crithmum maritimum*)—see Crithmum.

Sanchezia.—*Ord.* Acanthaceæ. Stove perennial flowering & orn. foliaged herbs. *Nat.* Ecuador, Guayagil. *Int.* 1866. *Ht.* 1 to 3 ft. *Species* cultivated, 2; variety 1. *Flowers*, purple, yellow, crimson; Ap. *Leaves*, large, oval, glaucous green, or striped with white or yellow. *Compost*, two parts peat & loam, one part decayed manure & sand. *Position*, light part of stove in winter; shady part in spring & sum. *Pot*, Mar. *Syringe* twice daily, Ap. to Oct.; once daily afterwards. *Water* freely, Mar. to Oct.; moderately other times. *Apply* weak stimulants occasionally during sum. *Temp.*, Sept. to Mar., 55° to 65°, Mar to Sept., 75° to 85°. *Propagate* by cuttings of young shoots inserted under bell-glass in fine soil, Mar. to July.

Sandarae Gum-tree (*Thuja articulata*)—see Thuja.

Sandersonia.—*Ord.* Liliaceæ. Stove tuberous-rooted herb. *Nat.* Natal. *Int.* 1852. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, orange; sum. *Compost*, equal parts loam, peat, leaf-mould, decayed manure, & silver sand. *Position*, well drained pots, with shoots trained to roof or trellis. *Pot*, Feb. placing tubers 2 in. deep, one in a 6-in. pot, or several in an 8 or 12-in. pot. *Water* moderately till growth is well advanced, then freely. *After flowering*, gradually withhold water & keep soil quite dry till potting time. *Temp.*, Feb. to Sept., 70° to 85°; Sept. to Feb., 55° to 65°. *Propagate* by seeds inserted singly ¼ in. deep in 3-in. pots filled with light soil in temp. 75° in Feb. or Mar.; offsets removed from large tubers at potting time.

Sanders-wood (*Pterocarpus santalinus*)—see Pterocarpus.

Sand-hill Rosemary (*Ceratiola ericoides*)—see Ceratiola.

Sand House-leek (*Sempervivum arenarium*)—see Sempervivum.

Sand Myrtle (*Ledum buxifolium*)—see Ledum.

Sand Pear (*Pyrus sinensis*)—see Pyrus.

Sand Pink (*Dianthus arenarius*)—see Dianthus.

Sand Verbena (*Abronia umbellata*)—see Abronia.

Sand-wort (*Arenaria balearica*)—see Arenaria.

Sanguinaria (Blood-root, Red Puccoon).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1680. *Ht.* 6 in. *Species* cultivated, 1; variety 1. *Flowers*, white; Ap. & May. *Soil*, sandy loam or peat. *Position*, sunny borders or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Water* freely in dry weather. *Top-dress* annually with decayed cow manure in Feb. or Mar. *Should* be interfered with as little as possible. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in equal parts leaf-mould, peat, & sand in cold frame or cool greenhouse in early autn. or spring, transplanting seedlings outdoors when large enough to handle; by division of roots in Oct. or Mar.

Sanguisorba (Burnet).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green, purple; sum. *Leaves* used for flavouring soups, salads, & wines. *Soil*, ordinary light. *Position*, sunny dryish bed or border. *Plant*, 6 in. apart in rows 8 in. asunder, Feb. *Water* freely in dry weather. *Remove* flower stems directly they appear. *Roots* to be lifted & replanted annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills 8 in. apart, Mar., Ap. or Sept., thinning seedlings when 2 in. high, 6 in. apart.

Sanseviera (Bow-string Hemp, Angola Hemp). — Hæmodoraceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Tropical & S. Africa, E. Indies. *Nat.* 1690. *Ht.* 1 to 3 ft. *Species* cultivated, about 4; varieties several. *Flowers*, white, green, yellowish; insignificant. *Leaves*, narrow. ridged, green, long, margined or spotted with white. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, pots in shady part of stove. *Pot*, Feb. to Ap. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* freely in sum. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by division of plants, Feb. to Ap.

Santolina (Lavender Cotton).—*Ord.* Compositæ. Hardy evergreen shrubby plants. *Nat.* S. Europe. *Int.* 1573. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties 3. *Flowers*, yellow; July to Sept. *Leaves* & shoots covered with cottony down. *Soil*, ordinary sandy. *Position*, margins of sunny borders or rockeries for *S. incana*; backs of sunny borders or large rockeries for *S. chamæcyparissus* & *S. rosmarinifolia*. *Plant*, Sept., Oct., Mar. or Ap. *Distance* apart for forming edging of *S. incana*, 6 in. *Propagate* by cuttings of shoots, 2 to 3 in. long, pulled off with portion of stem attached & inserted in pots of sandy soil in cold frame, Sept. or Oct., or in sheltered position outdoors, same time.

Sanvitalia.—*Ord.* Compositæ. Hardy annual. *Nat.* Mexico. *Int.* 1798. *Ht.* 12 in. *Species* cultivated, 1; variety 1. *Flowers*, yellow; single & double; June to Sept. *Soil*, ordinary. *Position*, margins of sunny borders or rockeries. *Sow* seeds $\frac{1}{16}$ in. deep in light soil in temp. 55° to 65° in Mar. *Harden* off seedlings in cold frame in Ap. & plant outdoors in May; or in lines or patches in open ground end of Ap., thinning seedlings when 1 in. high to 2 or 3 in. apart. *Water* freely in dry weather, & apply weak stimulants occasionally during flowering period.

Sapindus Fir (*Pinus orientalis*)—see Pinus.

Saponaria (Soap-wort, Bouncing Bet, Crow Soap, Fuller's Herb, Hedge Pink, Soap-wort Gentian).—*Ord.* Caryophyllaceæ. Hardy annuals & perennials. *Nat.* Pyrenees, Calabria, Switzerland, Britain. *Int.* (foreign species) 1596. *Ht.* 3 in. to 3 ft. *Flowers*, rose, red, pink, lilac, white; May to Sept. Culture of Annual Species (*S. calabrica*): *Soil*, ordinary. *Position*, margins of sunny borders or in beds. *Sow* seeds in lines or patches $\frac{1}{8}$ in. deep in Ap. for sum. flowering; in Sept. for spring flowering. *Thin* seedlings when 1 in. high 2 or 3 in. apart. *Water* freely in dry weather & apply stimulants occasionally. Culture of Perennial Species: *Soil*, equal parts sandy loam & peat for *S. cæspitosa*; deep rich loam for *S. ocymoides* & *S. officinalis*. *Position*, *S. cæspitosa*, sunny sheltered well drained rockeries; sunny rockeries or borders for *S. ocymoides*; large sunny or shady shrubbery borders or wild garden for *S. officinalis*. *Plant*, Oct. to Ap. *Top-dress* annually in Feb. with decayed manure. *Water* freely in dry weather. *Propagate* by seeds sown in shallow boxes of sandy soil in temp. of 55° to 65° in Mar., hardening seedlings in a cold frame in Ap., & planting out in May or June; or outdoors in Ap., transplanting seedlings in June & July; by cuttings inserted in sandy soil in cold frame, Sept. & Oct.; division of roots, Oct. to Mar.

Sap Pine (*Pinus rigida*)—see Pinus.

Sarcochilus.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Malayan Archipelago, Burmah, Australia. *Int.* 1821. *Species* cultivated, 3. *Flowers*, creamy white, mauve, rosy purple; sum. *Compost*, living sphagnum moss & clean potsherds. *Position*, teak baskets or pots suspended from the roof. *Pot* in Feb. or Mar. *Water* copiously daily, Ap. to Sept.; moderately afterwards. *Shade* from sun essential. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 85°. *Growing period*, Mar. to Sept.; *resting period*, Sept. to Mar. *Propagate* by division in Feb.

Sardinian Iris (*Iris olbiensis*)—see Iris.

Sardinian Nut (*Castanea vesca*)—see Castanea.

Sarmienta (Chilian Pitcher flower).—*Ord.* Gesneraceæ. Greenhouse herbaceous creeper. *Nat.* Chili. *Int.* 1862. *Species* cultivated, 1. *Flowers*, scarlet; May to Sept. *Compost*, soft peat, charcoal, & chopped sphagnum moss. *Position*, teak baskets or pans, suspended from roof, or in pots with shoots growing up stems of dead tree ferns. *Pot* or plant, Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 45° to 55°. *Propagate* by division of plants in Mar.

Sarracenia (Huntsman's Horn, Indian Cup, N. American Pitcher Plant, Side-saddle Flower, Trumpet-leaf).—*Ord.* Sarraceniaceæ. Half-hardy herbaceous perennials. *Nat.* N. America. *Int.* 1752. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8; hybrids several. *Flowers*, white, purple, yellow; June. *Leaves*, tubular, pitcher-shaped, recticulated. *Compost*, equal parts fibry peat & chopped sphagnum moss. *Position*, cool moist corner of greenhouse or fernery, cold frame, or Wardian case in dwelling room. *Pot*, Mar. *Pots* to be two-thirds full of drainage. *Place* pot containing plant inside another pot two sizes larger, & till space between with sphagnum moss. *Water* freely, Ap. to Oct.; very little in winter. *Syringe* foliage gently daily in sum. *Shade* from bright sun. *Top-dress* in sum. with a little decayed manure. OUTDOOR CULTURE OF S. PURPUREA: *Compost*, equal parts peat & sphagnum moss. *Position*, fully exposed bog garden or moist rockery. *Plant*, Mar. or Ap. *Keep* surface of soil covered with layer of moss. *Water* freely in sum. *Propagate* all the species & hybrids by division in Mar. or Ap.

Sassafras Oil-plant (*Laurus sassafras*)—see Laurus.

Sassafras-tree (*Laurus sassafras*)—see Laurus.

Satin-flower (*Lunaria biennis*)—see Lunaria.

Satin-leaf (*Heuchera Richardsoni*)—see Heuchera.

Satin-wood-tree (*Xanthoxylum caribæum*)—see Xanthoxylum.

Satureia (Summer & Winter Savory).—*Ord.* Labiatæ. Hardy annual & perennial evergreen herbs. *Nat.* Italy, S. Europe. *Int.* 1562. *Ht.* 18 in. *Species* cultivated, 2. *Flowers*, pink, purple; July. *Aromatic shoots* used for flavouring soups & salads, & for boiling with peas & beans. CULTURE OF SUMMER SAVORY (*S. hortensis*): Hardy annual. *Soil*, ordinary. *Position*, sunny. *Sow* seeds ½ in. deep in drills 12 in apart. *Thin* seedlings when 2 in. high to 6 in. apart. *Water* freely in dry weather. *Pull* plants up when in flower, & dry for winter use. CULTURE OF WINTER SAVORY (*S. montana*): Hardy evergreen shrub. *Soil*, ordinary. *Position*, sunny. *Plant*, Mar. or Ap. 12 in. apart in rows 15 in. asunder. *Prune* in closely in Oct., & top-dress with manure. *Renew* plantations every fourth year *Propagate* by seeds sown as advised for annual species, also by cuttings of young shoots inserted in shady border in Ap., division of roots in Mar.

Satyrium.—*Ord.* Orchidaceæ. Half-hardy terrestrial tuberous-rooted orchid. *Nat.* S. Africa. *Int.* 1842. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, orange, crimson; July & Aug. *Compost*, equal parts good turfy loam, sandy peat, leaf-mould, charcoal, & coarse silver sand. *Position*, well drained pots in cold shady frame. *Pot*, Aug. to Nov., placing tubers 1 in. below surface, & 3 to 5 in a 6-in. pot. *Make* compost firm. *Plunge* pots to rims in cinder ashes or cocoanut-fibre refuse. *Water* copiously from time growth begins till foliage fades; then keep nearly dry. *Apply* weak stimulants from Ap. till flowers fade. *Remove* flower spikes when blooms fade. *Repot* every 2 or 3 years. *Protect* from Dec. to Feb. by covering of cocoanut-fibre refuse or cinder ashes. *Propagate* by division of tubers, Aug. to Nov.

Saussurea (Saw-wort).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* Europe (Britain), Caucasus, Siberia, Nepaul. *Int.* 1816. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 5. *Flowers*, purple, pink; thistle-like; sum. *Soil*, ordinary. *Position*, sunny rockeries for *S. alpina*; sunny borders for *S. pulchella*, *S. pygmæa*, etc. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary soil in sunny position outdoors, Ap., transplanting seedlings when 3 or 4 leaves have formed.

Savannah-flower (*Echites suberecta*)—see Echites.

Savin Oil-plant (*Juniperus sabina*)—see Juniperus.

Savin-tree (*Juniperus sabina*)—see Juniperus.

Savory (*Satureia hortenis & montana*)—see Satureia.

Savoy Cabbage (*Brassica oleracea bullata major*)—see Brassica.

Saw Palmetto Palm (*Chamærops serrulata*)—see Chamærops.

Saxifraga (Breakstone, London Pride, Rockfoil, St. Patrick's Cabbage).—*Ord.* Saxifragaceæ. Hardy annual & perennial herbs. *Nat.* Europe (Britain), Levant, N. America, Japan, India, China. *Ht.* 1 to 18 in. *Species* cultivated, 6 annuals; about 140 perennials. *Flowers*, white, yellow, flesh; May to Sept. Culture of Annual Species (*S. cymbalaria*, etc.): *Soil*, ordinary. *Position*, sunny moist rockeries or borders. *Sow* seed in Ap. where plants are required to grow. Usually perpetuates itself from seed. Culture of Perennial Species: *Soil & Position*, limestone, loam & sand, & sunny rockeries for S. longifolia, crustata, Hosti, lantoscana, Aizoon, cotyledon, mutata, florulenta, Kotschyi, media, Rocheliana, Spruneri, diapensioides, Scardica, aretioides, squarrosa, cæsia, valdensis, Vandelii, Burseriana, & juniperifolia; limestone, loam & sand, & a damp shady position on the rockery for S. sancta; granite chippings, grit, old mortar & sandy loam, & a damp shady rockery for S. oppositifolia, retusa & biflora; loam & peat & a shady rockery for S. hirculus & diversifolius; ordinary soil & sunny borders or rockeries for S. muscoides, Camposi, trifurcata, pedemontana, & Reuteriana; sandy loam & a damp shady rockery for S. Maweana; ordinary soil & sunny or shady borders for S. umbrosa & crucifolia; sandy loam & sunny borders for S. virginica & Mertensiana; ordinary soil & damp shady borders for S. aconitifolia & ranunculifolia; peat & a damp shady border or margin of pond for S. peltata; ordinary soil & a damp shady border for S. granulata fl. pl.; light sandy loam & a damp border for S. tricuspidata, aspera, & aizoides. *Plant*, Feb. to May. *Mulch* surface of soil with cocoanut-fibre refuse in dry seasons. Pot Culture of S. cotyledon pyramidalis: *Compost*, two parts turfy loam & one part of equal proportions of old mortar, decayed cow manure, & sand. *Place* a single offset in a $2\frac{1}{2}$-in. pot in sum., & when latter is filled with roots transfer to a 5-in. size. *Grow* plants in a cold frame until Mar., then transfer to greenhouse to flower. *Water* moderately in sum.; give little at other times. *Apply* weak stimulants occasionally during flowering period. *After flowering* cut off stems, & when offsets are large enough repot as above advised. Pot Culture of S. sarmentosa (*Wandering Jew*): *Compost*, equal parts leaf-mould, loam, decayed cow manure, & sand. *Position*, pots or baskets suspended in sunny windows or cool greenhouses. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. General Remarks: All the species referred to for outdoor culture may be grown in pots in a cold frame or greenhouse; admit abundance of air, and avoid over-watering. *Compost* similar to that advised for outdoors. *Propagate* annual species by seeds; others by offsets in spring; division in Mar.

Saxifrage Catchfly (*Silene saxifraga*)—see Silene.

Scabiosa (Scabious, Pincushion Flower, Egyptian Rose, Mournful Widow, Sweet Scabious).—*Ord.* Dipsaceæ. Hardy biennial & perennial herbs. *Nat.* Europe (Britain), Caucasus. *Ht.* 1 to 5 ft. *Species* cultivated, 1 biennial; 8 perennials. *Flowers*, lilac, rose, crimson, blue, purple, white; May to Sept. CULTURE OF BIENNIAL SPECIES (*S. atropurpurea*): *Soil*, good rich ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in light sandy soil in temp. of 60° to 70° in Feb. or Mar., & plant out in May to insure plants flowering same year, or outdoors in June or July, transplanting seedlings when 1 in. high, 3 in. apart; or warm sunny border, transplanting again following Mar. to flowering position. *In* cold districts lift the seedlings in Aug., & place in small pots; winter in cold frame & plant out in Ap. CULTURE OF PERENNIAL SPECIES: *Soil*, ordinary deep rich. *Position*, sunny well drained borders for *S. caucasica*; sunny rockeries for *S. gramminifolia*; ordinary borders for *S. columbaria*, etc. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* annually in Feb. or Mar. with decayed manure. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by division of roots, Oct. or Mar.

Scale Fern (*Ceterach officinarum*)—see Ceterach.

Scallion (*Allium ascalonicum majus*)—see Allium.

Scaly Fern (*Ceterach officinarum*)—see Ceterach.

Scaly Rhododendron (*Rhododendron lepidotum*)—see Rhododendron.

Scaly Spleenwort (*Ceterach officinarum*)—see Ceterach.

Scarborough Lily (*Vallota purpurea*)—see Vallota.

Scarlet-barked Strawberry-tree (*Arbutus Unedo Croomi*)—see Arbutus.

Scarlet Dahlia (*Dahlia coccinea*)—see Dahlia.

Scarlet-flowered Avens (*Geum coccineum*)—see Geum.

Scarlet-flowered Bindweed (*Ipomæa coccinea*)—see Ipomæa.

Scarlet-flowered Clematis (*Clematis coccinea*)—see Clematis.

Scarlet-flowered Larkspur (*Delphinium puniceum*)—see Delphinium.

Scarlet-flowered Leadwort (*Plumbago coccinea*)—see Plumbago.

Scarlet-flowered Musk (*Mimulus cardinalis*)—see Mimulus.

Scarlet-flowered Orchid (*Sophronitis grandiflora* & *Lælia harpophylla*)—see Sophronitis & Lælia.

Scarlet-flowered Pentstemon (*Pentstemon puniceus*)—see Pentstemon.

Scarlet-flowered Sage (*Salvia coccinea* & *S. splendens*)—see Salvia.

Scarlet-flowered Skull-cap (*Scutellaria mocciniana*)—see Scutellaria.

Scarlet Fritillary (*Fritillaria recurva*)—see Fritillaria.

Scarlet-fruited Staff-tree (*Celastrus bullatus*)—see Celastrus.

Scarlet-fruited Thorn (*Cratægus coccinea*)—see Cratægus.

Scarlet Fuchsia (*Fuchsia coccinea*)—see Fuchsia.

Scarlet Hawthorn (*Cratægus oxyacantha coccinea*)—see Cratægus.

Scarlet Lobelia (*Lobelia cardinalis*)—see Lobelia.

Scarlet Lychnis (*Lychnis chalcedonica*)—see Lychnis.

Scarlet Mallow (*Pavonia coccinea*)—see Pavonia.

Scarlet Martagon Lily (*Lilium chalcedonicum*)—see Lilium.

Scarlet Mexican Sage (*Salvia fulgens*)—see Salvia

Scarlet Mexican Thistle (*Cnicus conspicua*)—see Cnicus.

Scarlet Mitre-pod (*Mitraria coccinea*)—see Mitraria.

Scarlet Monkey-flower (*Mimulus cardinalis*)—see Mimulus.

Scarlet Oak (*Quercus coccinea*)—see Quercus.

Scarlet Runner Bean (*Phaseolus multiflorus coccineus*)—see Phaseolus.

Scarlet-striped Lily (*Lilium auratum rubro-vittatum*)—see Lilium.

Scarlet Tassel-flower (*Cacalia coccinea*)—see Cacalia.

Scarlet Wind-flower (*Anemone fulgens*)—see Anemone.

Scarlet Wound-wort (*Stachys coccinea*)—see Stachys.

Scented Crocus (*Crocus odorus*)—see Crocus.

Scented Fern (*Lastrea oreopteris*)—see Lastrea.

Scented Polypody (*Polypodium pustulatum*)—see Polypodium.

Scherzer's Flamingo Plant (*Anthurium Scherzerianum*)—see Anthurium.

Schismatoglottis.—*Ord.* Aroidæ. Stove perennial herbs. Orn. foliage. *Nat.* Borneo, New Guinea, Java, Siam. *Int.* 1862. *Ht.* 6 to 12 in. *Species* cultivated, about 9; varieties several. *Flowers*, insignificant. *Leaves*, oblong or heart-shaped, green or striped with silver-grey, purple or yellow. *Compost*, equal parts sandy loam, fibrous peat, leaf-mould, & silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Apply* stimulants occasionally during sum. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 75° to 85°. *Propagate* by division, Feb. or Mar.

Schizæa (Comb or Rush Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Australia, N. America, W. Indies, Malayan Archipelago, Trinidad, S. America, Malacca. *Int.* 1816. *Ht.* 3 to 12 in. *Species* cultivated, 3 greenhouse; 6 stove. *Fronds*, fan shaped. *Compost*, equal parts leaf-mould, peat, & silver sand. *Position*, well drained pots in Wardian cases or in moist shady part of stove or greenhouse. *Pot* or plant, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Sprinkle* fronds daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°, for greenhouse species; Mar. to Sept.. 75° to 85°; Sept. to Mar., 55° to 65° for stove species. *Propagate* by division of roots in Feb. or Mar.

Schizandra.—*Ord.* Magnoliaceæ. Hardy evergreen climbing shrubs. *Nat.* China & N. America. *Int.* 1806. *Ht.* 20 ft. *Species* cultivated, 2. *Flowers*, rose-scarlet; sum. *Leaves*, large & handsome. *Berries*, scarlet. *Soil*, loam & peat. *Position*, sunny walls or arbours. *Plant*, Sept. & Oct. or Ap. *Prune* straggly shoots, Ap. *Propagate* by cuttings of firm shoots inserted in sandy peat under bell-glass in cold frame, July to Oct.

Schizanthus (Butterfly or Fringe Flower).—*Ord.* Solanaceæ. Half-hardy annual herbs. *Nat.* Chili. *Int.* 1822. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, white, yellow, lilac, purple, violet; Mar. to Nov. OUTDOOR CULTURE: *Soil*, good ordinary rich. *Position*, sunny beds or borders. *Sow* seeds thinly in pots, pans, or boxes filled with light soil, & place in temp. 65° to 75° in Feb. or Mar. *Cover* slightly with fine mould. *Transplant* seedlings when 1 in. high, 4 in a 3-in. pot, harden off in frame, & plant out in May. *Sow* also similarly in Aug., transplant 3 in a 3-in. pot, & place on shelf in light airy greenhouse until following May, then plant out. *Sow* likewise outdoors end of Ap. where required to grow. POT CULTURE: *Compost*, one part loam, half a part each of decayed manure & leaf-mould, little sand. *Sow* seeds thinly in above compost in cool greenhouse or frame in Aug. *Transplant* seedlings singly in 3-in. pots, & grow on shelf in greenhouse (temp. 45° to 55°) until Jan., then transfer to 6-in. pots, & grow in light position. *Water* moderately in winter; freely other times. *Apply* weak stimulants occasionally whilst flowering. *Support* plants with stakes. For sum. flowering, sow seeds in temp 55° to 65° in Feb. or Mar., transplanting when 1 in. high to 3-in. pots, then into 5-in. pots.

Schizopetalon.—*Ord.* Cruciferæ. Half-hardy annual. *Nat.* Chili. *Int.* 1821. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, almond-scented; May to Aug. *Sow* seeds in light warm rich soil in open border, Ap. or May. *Cover* seeds lightly with fine soil. *Thin* seedlings when 1 to 2 in. high to 3 or 4 in. apart. *Support* plants when 6 to 12 in. high with small bushy twigs. *Water* freely in dry weather. *Sow* also thinly in well drained pans filled with compost of loam, peat, & sand placed in temp. of 55° to 65°, Feb. or Ap.; transplanting seedlings 3 or 4 in 3-in. pots filled with above compost; harden off in cold frame & plant out in May.

Schizophragma (Climbing Hydrangea).—*Ord.* Saxifragaceæ. Hardy evergreen self-clinging climbing shrub. Flowering. *Nat.* Japan. *Int.* 1879. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, pink; autn. *Soil*, ordinary. *Position*, sunny wall. *Plant*, Oct. or Ap. *Prune* straggly shoots into shape, Ap. *Propagate* by cuttings inserted in sand under a bell-glass in temp. 55° in spring.

Schizostylis (Caffre Lily, Crimson Flag).—*Ord.* Iridaceæ. Hardy bulbous or rhizomatous rooted perennial. *Nat.* Kaffraria. *Int.* 1864. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, crimson; Oct. & Nov. OUTDOOR CULTURE: *Soil*, moist loamy. *Position*, warm sunny border. *Plant*, Oct. to Mar. *Protect* in severe weather by covering of dry litter. *Water* freely in dry weather in sum. & apply stimulants occasionally. POT CULTURE: *Compost*, two parts loam, one part decayed manure, little sand. *Pot*, Nov. to Mar. *Position*, cold frame, Dec. to Ap.; plunged to the rim of pots in sunny border, Ap. to Sept.; cold greenhouse, Sept. to Dec. *Water* copiously sum.; moderately other times. *Apply* stimulants occasionally in sum. *Repot* annually. *Propagate* by division of rhizomes or roots in Mar. or Ap.

Schomburgkia.—Stove epiphytal orchid. *Nat.* Trop. America. *Int.* 1834. *Ht.* 3 ft. *Species* cultivated, 11. *Flowers*, white, purple, yellow, pink, lilac, brown, carmine; Aug. to Mar. *Compost*, sphagnum moss & fibrous peat. *Position* on blocks suspended from roof or in well drained pots or pans. *Pot* or reblock, Feb. or Mar. *Water* freely during growing period. *Keep* dry after growth has completed until flowers appear. *Shade* from sun. *Moist* atmosphere essential during growing period. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Sciadopitys (Parasol Fir Tree, Umbrella Pine).—*Ord.* Coniferæ. Hardy evergreen conifer. *Nat.* Japan. *Int.* 1861. *Ht.* 80 to 120 ft. *Species* cultivated, 1; variety 1. *Leaves*, long, tapering, borne in tufts at the end of shoots, parasol-like; green or variegated with pale yellow. *Soil*, rich moist loam. *Position*, sheltered from piercing winds. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by imported seeds sown ⅛ in. deep in pots filled with moist sandy loam, & placed in cold frame or greenhouse, transplanting seedlings outdoors following spring; or ¼ in. deep outdoors in Ap. in moist bed of sandy loam, transplanting seedlings next year.

Scian Mastich-tree (*Pistacia lentiscus*)—see Pistacia.

Sciatica Cress (*Iberis amara*)—see Iberis.

Scilla (Squill, Sea Onion, Blue Bell, Winter Hyacinth, Harebell, Bell Bottle, Crow Bells, & Cape Hyacinth).—*Ord.* Liliaceæ. Greenhouse & hardy bulbous plants. *Nat.* Britain, S. Europe, Levant, Algeria, S. Africa. *Ht.* 3 to 12 in. *Species* cultivated, 35 greenhouse, 37 hardy. *Flowers*, blue, rose or white; spring & autn. CULTURE OF GREENHOUSE SPECIES: *Compost*, two parts sandy loam, one part decayed cow manure & sand. *Position*, well drained pots in light cool greenhouse. *Pot*, Aug. to Dec. singly or in threes in 5-in. pots. *Water* freely when growth begins; keep dry after flowering ceases & leaves begin to decay. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Stand* pots in cold sunny frame, June to Sept. CULTURE OF

HARDY SPECIES (*S. sibirica, S. peruviana, S. bifolia, S. nutans*, etc.): *Outdoors*: *Soil*, deep sandy loam. *Position*, sunny beds, borders or rockeries. *Plant*, Aug. to Nov. in lines or masses. *Depth for planting*: Small bulbs 2 in. deep & 2 in. apart; large bulbs 4 in. deep & 3 to 4 in. apart. *Mulch* with decayed manure, Nov. *Lift*, divide, & replant every third year. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould or well decayed cow manure & one part river sand. *Pot*, Aug. to Nov., placing small bulbs, 1 in. apart, in a 5-in. pot; or 3 to 5 large-sized bulbs 1 in. deep in similar pots. *Position*, under layer of cinder ashes from time of potting till growth commences, then in cold frame, cool greenhouse or window till past flowering, afterwards in sunny spot outdoors. *Water* moderately from time growth commences till foliage fades, then keep dry. *Repot* annually. *Apply* weak stimulants once or twice during flowering period. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in boxes or cold frame, or outdoors in Sept.; offsets from old bulbs removed when lifting & planted as advised for full-sized bulbs. Seedlings flower when 3 to 4 years old.

Scirpus (Club Grass or Rush).—*Ord.* Cyperaceæ. Hardy perennial marsh or water plants. *Nat.* Europe (Britain). *Ht.* 1 to 8 ft. *Species* cultivated, about 4. *Inflorescence*, brown, tufted; sum. *Leaves*, long, grass-like. *Soil*, ordinary. *Position*, margins of lakes, streams, & ponds. *Plant*, Oct. to Ap. *Propagate* by division, Oct. to Ap.

Scoke (*Phytolacca decandra*)—see Phytolacca.

Scolopendrium (Hart's-tongue Fern).—*Ord.* Filices. Hardy evergreen fern. *Nat.* Europe (Britain). *Ht.* 3 to 18 in. *Species* cultivated, 1; varieties very numerous. *Fronds*, strap-shaped, crested, or contorted. OUTDOOR CULTURE: *Soil*, one part each of fibrous peat & loam, & one of sand, broken oyster shells, & limestone or mortar rubbish. *Position*, shady borders, rockeries, or banks. *Plant*, Ap. *Water*, copiously in dry weather. INDOOR CULTURE: *Compost*, as above. *Position*, pots in cold frame, greenhouse or dwelling room. *Shade* from sun essential. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.

Scolymus (Spanish Oyster Plant, Golden Thistle).—*Ord.* Compositæ. Hardy annual, biennial, & perennial herbs. *Nat.* S. Europe. *Int.* 1630. *Ht.* 3 ft. *Species* cultivated, 3. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, sunny borders. *Plant* perennial species (*S. grandiflorus*), Oct. to Ap. *Sow* seeds of annual species (*S. maculatus*) & of biennial species (*S. hispanicus*) ½ in. deep where required to grow in Mar. or Ap. *Thin* seedlings to 8 or 12 in. apart when 2 in. high. *Propagate* perennial species by seeds sown as above, or by division of roots in Ap.

Scorpion Grass (*Myosotis dissitiflora*)—see Myosotis.

Scorpion Iris (*Iris alata*)—see Iris.

Scorpion-plant (*Renanthera arachnites* & *Genista scorpius*)—see Renanthera & Genista.

Scorpion Senna (*Coronilla Emerus*)—see Coronilla.

Scorzonera (*Scorzonera hispanica*)—see Scorzonera.

Scorzonera (Vipers' Grass).—*Ord* Compositæ. Hardy herbaceous perennial with edible roots. *Nat.* S. Europe. *Int.* 1576. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Roots*, carrot-shaped, white with dark skin, sweet-flavoured. *Soil*, ordinary fine, rich, deeply trenched, free from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills ½ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., twist off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures for:* 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. of guano mixed per square rod (30¼ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Scotch Crocus (*Crocus biflorus*)—see Crocus.
Scotch Elm (*Ulmus montana*)—see Ulmus.
Scotch Fir (*Pinus sylvestris*)—see Pinus.
Scotch Heather (*Erica cinerea*)—see Erica.
Scotch Kale (*Brassica oleracea sabellica*)—see Brassica.
Scotch Laburnum (*Cytisus alpinus*)—see Cytisus.
Scotch Lilac (*Syringa vulgaris violacea*)—see Syringa.
Scotch Primrose (*Primula scotia*)—see Primula.
Scotch Rose (*Rosa spinosissima*)—see Rosa.
Scotch Thistle (*Onopordon acanthium*)—see Onopordon.
Screw Pine (*Pandanus odoratissimus*)—see Pandanus.
Scrofula-leaf (*Goodyera pubescens*)—see Goodyera.

Scrophularia.—*Ord.* Scrophulariaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia Minor. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3. *Flowers*, golden yellow, green, purple; Mar. to Aug. *Leaves*, green or variegated. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. to Mar. *Remove* flowers from variegated kind directly they appear. *Propagate* by cuttings inserted in sandy soil under hand-light in autn.; division in Mar. or Ap.

Scrub Oak (*Quercus Catesbæi*)—see Quercus.

Scutellaria (Helmet Flower, Skull Cap).—*Ord.* Scrophulariaceæ. Stove perennials & shrubs & hardy herbaceous perennials. *Nat.* Brazil, Mexico, S. Europe, N. America, Japan, Persia, Britain. *Int.* (foreign species) 1683. *Ht.* 3 to 18 in. *Species* cultivated, 11 stove; 22 hardy. *Flowers*, pink yellow, blue, scarlet, purple; sum. & winter. CULTURE OF STOVE SPECIES (*S. mocciniana*, etc.): *Compost*, two parts loam, one part of equal proportions of leaf-mould, decayed manure, & sand. *Position*, light part of stove, Sept. to June; sunny cold frame remainder of year. *Pot*, Feb. or Mar. *Prune* shoots directly after flowering (Feb.) to within 3 in. of base. *Good drainage* essential. *Nip* off points of main shoots when 3 in. long, also of lateral shoots when of similar length to induce bushy growth. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Apply* stimulants once a week, May to Dec. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 70° to 80°. CULTURE OF HARDY SPECIES (*S. macrantha*, etc.): *Soil*, ordinary. *Position*, open sunny borders or rockeries; moist bogs for *S. minor*. *Plant*, Mar. or Ap. *Lift*, divide, & replant only when overgrown. *Propagate* S. mocciniana by cuttings of firm shoots, 2 to 3 in. long, inserted in light sandy soil under bell-glass in temp. 75° to 85° in spring; hardy species by seeds sown outdoors in Ap.; division of roots in Mar. or Ap.

Scuticaria.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil, British Guiana. *Int.* 1834. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, green, yellow, chocolate, white; sum. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans, or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs immediately after flowering.

Scyphanthus (Cup Flower).—*Ord.* Loasaceæ. Half-hardy annual climber. *Nat.* Chili. *Int.* 1824. *Ht.* 5 to 8 ft. *Species* cultivated, 1. *Flowers*, golden yellow; Aug. to Oct. *Soil*, light, rich ordinary. *Position*, sunny trellis or wall. *Sow* seeds in light sandy soil in temp. 55° to 65° in

Mar. *Transplant* seedlings when 1 in. high singly in 3-in. pots, keep in heat until established, then harden in cold frame, & plant out in June.

Sea Buckthorn (*Hippophæ rhamnoides*)—see Hippophæ.

Sea Bugloss (*Mertensia maritima*)—see Mertensia.

Sea Cabbage (*Crambe maritima*)—see Crambe.

Sea Cole-wort (*Crambe maritima*)—see Crambe.

Sea Cross-wort (*Crucianella maritima*)—see Crucianella.

Sea Eryngo (*Eryngium maritimum*)—see Eryngium.

Seaforthia (Bungalow Palm, Cabbage Palm.—*Ord.* Palmaceæ. Greenhouse palms. Orn. foliage. *Nat.* Queensland, New South Wales. *Int.* 1822. *Ht.* 30 to 60 ft. *Species* cultivated, 1. *Leaves*, fan-shaped, green. *Compost*, equal parts loam & leaf-mould, half a part silver sand. *Position*, shady part of stove, warm greenhouse, or conservatory; pots or tubs. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Top-dress* large plants occasionally with layer of cow manure. *Apply* stimulants occasionally, Ap. to Sept. *Temp.*, Mar. to Oct., 60° to 75°; Oct. to Mar., 55° to 60°. *Propagate* by seeds sown ½ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Sea Gilliflower (*Armeria vulgaris*)—see Armeria.

Sea-green Whitlow-grass (*Draba aizoides*)—see Draba.

Sea Grass (*Armeria maritima*)—see Armenia.

Sea Heath (*Frankenia lævis*)—see Frankenia.

Sea Holly (*Eryngium maritimum*)—see Eryngium.

Seakale (*Crambe maritima*).—*Ord.* Cruciferæ. Hardy perennial. *Nat* Seashores of Britain. *Ht.* 18 in. *Species* cultivated, 1.; varieties several *Flowers*, white; May. *Leaf stalks* edible. *Soil*, rich, deeply trenched ordinary. *Position*, open, sunny. *Plant*, Feb. or Mar. *Distance* apart in the row, 18 in. to 2 ft.; between the rows, 2½ ft. *Top of root* to be 2 in. below surface. *Rub* off all except one shoot at each root in May. *Renew* plantations every four or five years. *Mulch* annually in Nov. with manure. *Cover* crowns with cinder ashes or pots, Nov. to Feb. to blanch stalks for use. *Pots* may be covered with leaves & fresh dung, Dec. to Mar., to ensure early supply of stalks. *Commence* to cut stalks when roots have been planted 2 years. *Forcing:* Lift roots planted two or more years, Nov. to Mar., and place closely together in soil in large pots or boxes provided with covers to exclude light. *Place* in temp. 55° to 65°, & keep moist. *Manures*: Salt, 1 oz. per sq. yard, applied May to Aug.; nitrate of soda, 1 oz. per sq. yard, applied May to Aug.; Peruvian guano, 1½ oz. per sq. yard, applied in May or June. *Propagate* by seeds sown 1 in. deep in rows 12 in. apart in Mar. or Ap. *Lift* roots following Feb. or Mar., & replant 18 in. to 2 ft. in rows 2½ ft. asunder. Also by cuttings of thong-like roots 1 to 1½ in. in diameter & 4 to 6 in. long, having crowns pared off & lower ends cut slantwise & planted 18 in. to 2 ft. apart in rows 2½ ft. asunder, Feb. or Mar.

Seakale Beet (*Beta brasiliensis* & *B. cicla*)—see Beta.

Sea Lavender (*Statice Limonium*)—see Statice.

Sea Onion (*Scilla maritima*)—see Scilla.

Sea Pink (*Statice armeria* & *Armeria maritima*)—see Statice & Armeria.

Sea-shore Daffodil (*Narcissus calathinus*)—see Narcissus.

Sea-side Alder (*Alnus maritima*)—see Alnus.

Sea-side Heron's-bill (*Erodium maritimum*)—see Erodium.

Sea-side Oak (*Uniola paniculata*)—see Uniola.

Sea-side Pea (*Pisum maritimum*)—see Pisum.

Sea-side Poppy (*Glaucium luteum*)—see Glaucium.

Sea-side Rag-weed (*Cineraria maritima*)—see Cineraria.

Sea-side Rocket (*Cakile maritima*)—see Cakile.

Sea-side Spleenwort (*Asplenium marinum*)—see Asplenium.

Sea-side Stock (*Mathiola sinuata*)—see Mathiola.

Sea Star (*Aster tripolium*)—see Aster.

Sea Starwort (*Aster tripolium*)—see Aster.

Seal Flower (*Dielytra spectabilis*)—see Dielytra.

Sedum (Stonecrop).—*Ord.* Crassulaceæ. Greenhouse & hardy evergreen & herbaceous perennials, biennials, & annuals. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia, Africa, N. America, Japan, Mexico. *Ht.* 1 to 18 in. *Species* cultivated, about 15 herbaceous perennials; 37 evergreen perennials; 2 annuals. *Flowers*, yellow, white, rose; sum. CULTURE OF GREENHOUSE SPECIES (*S. Sieboldi*) *S. carneum*, etc.): *Compost*, two parts sandy loam, one part brick rubbish, one part of equal proportions of dried cow dung & sand. *Position*, pots or pans in sunny greenhouse. *Pot*, Feb. to Ap. *Water* freely, Ap. to Oct.; very little afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 45° to 55°. CULTURE OF HARDY PERENNIAL SPECIES (*S. telephium*, etc.): *Soil*, ordinary or sandy loam. *Position*, sunny or shady dryish rockeries & borders. *Plant*, Nov. to Ap. *Lift*, divide, & replant triennially. CULTURE OF ANNUAL SPECIES (*S. cæruleum*, etc.): *Soil*, ordinary. *Position*, sunny dryish banks, rockeries, or borders. *Sow* seeds thinly in Ap. where required to grow, & lightly cover with fine soil. *Thin* 3 to 6 in. apart when 2 in. high. SPECIES ADAPTED FOR CARPET BEDDING: *S. dasyphyllum* 3 in. & *S. glaucum*, 3 in., glaucous foliage; *S. acre elegans* 3 in. & *S. anglicum* 2 in., yellow foliage; *S. lydium* 2 in., green foliage. ***Propagate*** greenhouse species (***S. carneum***, *S. Sieboldi*, etc.), by seeds sown in well drained pots or pans filled with fine compost of equal parts brick rubble, sandy loam & sand, & placed in temp. of 55°, Feb. to May; also by cuttings of shoots inserted in brick rubble, loam, & sand, in temp. 45° to 55° in sum.; division of roots at potting time. Hardy species by seeds sown outdoors in Ap., or division of the roots in Mar. or Ap.

Sego (*Calochortus Nuttallii*)—see Calochortus.

Selaginella (Creeping Moss, Tree Club Moss, Rock Lily, Garden Club Moss, Resurrection Plant, Serpent Moss).—*Ord.* Lycopodiaceæ. Stove & greenhouse orn. foliage plants. Evergreen. *Nat.* E. Indies, Brazil, Central America, Tropical America, Fiji Islands, Mexico, New Grenada, Ceylon, W. Africa, Cochin China, N. America. *Int.* 1860. *Ht.* 1 to 18 in. *Species* cultivated, 53. *Fronds*, creeping or erect; branched; green or variegated. *Compost*, equal parts fibrous peat & chopped sphagnum moss. *Position*, pots, pans, or rockeries in shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80° for stove species; Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65° for greenhouse species. *Propagate* by cuttings about 3 in. long inserted in above compost in well drained pots, & plunged in cocoanut-fibre refuse in a temp. of 80° at all seasons.

Selaginella-tree (*Selaginella cæsia arborea*)—see Selaginella.

Selenipedium.—See Cypripedium.

Sempervivum (House-leek, Bullock's Eye, Jupiter's Beard, Jupiter's Eye).—*Ord.* Crassulaceæ. Greenhouse & hardy succulent-leaved perennials. *Nat.* S. & Central Europe, Britain, Levant, Siberia, Canaries, Madeira, Teneriffe. *Int.* (foreign species), 1640. *Ht.* 3 in. to 4 ft. *Species* cultivated, 39 hardy; 24 greenhouse. *Flowers*, purple, red, & yellow; sum. *Leaves*, fleshy green or variegated. CULTURE OF HARDY SPECIES: *Soil*, ordinary light, sandy, containing a little old mortar. *Position*, open & sunny; chinks, crevices, or ledges of rockeries; edgings to borders. *Plant*, Mar. to June. If used for edgings, plant close together in single or double rows. *Top-dress* annually in Mar. with old & dried cowdung. *Common House-leek* (*S. tectorium*) adapted for growing on sunny roofs or in crevices of old walls. *Plant* in a mixture of cowdung & clay in Mar. or Ap. CULTURE OF GREENHOUSE SPECIES: *Compost*, equal parts sandy loam, leaf-mould, & brick rubbish *Position*, well drained pots or pans in sunny part of greenhouse or window. *Pot*, Mar. *Water* moderately, Ap. to Oct.; keep nearly dry remainder of year. *No stimulants*, shading, or syringing needed. *Temp.*, Mar. to Oct., 55° to 75°; Oct. to Mar., 40° to 50°. *Propagate* by seeds sown in spring in a compost of equal parts sandy loam, leaf-mould, & old mortar, in well drained shallow pans, slightly covered with fine mould, & placed in temp. 55° to 65; cuttings of shoots or leaves dried for a day or so after removal from the plant & inserted in above compost in sum.; division or offsets in Mar.

Senecio (Jacobæa, Groundsel).—*Ord.* Compositæ. Greenhouse & hardy annuals, evergreen herbs or climbers & herbaceous perennials. *Nat.* Europe, N America, Japan, Caucasus, Cape of Good Hope, China, Mexico, Peru, E. Indies. *Int.* 1683. *Ht.* 3 in. to 6 ft. *Species* cultivated, 30 hardy herbaceous; 43 greenhouse evergreens; 15 annuals; 1 hardy evergreen. *Flowers*, purple, yellow, white, lilac, scarlet; May to Dec. OUTDOOR CULTURE OF ANNUAL SPECIES (*S. elegans*, etc.): *Soil*, ordinary rich. *Position*, sunny beds or borders. *Sow* seeds in Ap. $\frac{1}{8}$ in. deep in patches or lines where required to grow. *Thin* seedlings 3 to 6 in. apart when 1 in. high. POT CULTURE OF S. ELEGANS: *Compost*, two parts sandy loam, one part leaf-mould, or well decayed manure, & one part sand. *Place* in 6-in. pots, well drained, press firmly & sow seeds thinly in Ap., covering with fine mould. Stand pots in cold greenhouse, window, or frame. *Thin* seedlings when 1 in. high to 2 in. apart. *Water* moderately & apply stimulants when flowers show. CULTURE OF GREENHOUSE SPECIES (*S. mikanioides*—German Ivy—etc.): *Compost*, two parts sandy loam, one part well decayed manure or leaf-mould, & one part sand. *Position*, well drained pots in sunny greenhouse or window; dwarf kinds on staging or inside window sills; tall kinds trained up roof of greenhouse or round window frames. *Pot*, Mar. or Ap. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants occasionally in sum. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar. 40° to 50°. CULTURE OF HARDY SPECIES (*S. pulcher*, etc.): *Soil*, deep rich loam. *Position*, partially shady moist border. *Plant*, Mar. or Ap. *Mulch* with decayed manure annually in Mar. *Water* freely in dry weather. *Propagate* greenhouse species by seeds sown in Ap. $\frac{1}{16}$ in. deep in a compost of equal parts loam, leaf-mould, & sand, in well drained pots or pans in temp. 65° to 75°; by cuttings inserted in similar soil & temp. in spring or sum. Hardy species by seeds sown $\frac{1}{8}$ in. deep outdoors in Ap.; division of the roots in Mar. or Ap.

Sengreen (*Sempervivum tectorum* & *Saxifraga nivalis*)—see Sempervivum & Saxifraga.

Senna Oil-plant (*Cassia senna*)—see Cassia.

Sensitive Fern (*Onoclea sensibilis*)—see Onoclea.

Sensitive Plant (*Mimosa sensitiva*)—see Mimosa.

Sequoia (Mammoth Tree, Californian Red wood. *Ord.* Coniferæ. Hardy evergreen coniferous trees. *Nat.* California. *Int.* 1853. *Ht.* 300 ft. *Species* cultivated, 2; varieties several. *Habit*, pyramidal. *Leaves*, small, scale-like, pointed. *Soil*, sandy loam or reclaimed bog. *Position*, sunny sheltered. *Plant*, Sept., Oct., Ap. or May. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pans of sandy loam placed in cold frames in spring; transplanting seedlings when large enough to handle, 6 in. apart in nursery rows 6 in. asunder; by cuttings of shoots inserted in sandy loam under bell-glass, hand-light, or cold frame, Sept. & Oct.; variegated kinds by grafting on common species in spring.

Serapias (Tongue-flowered Orchid).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* Mediterranean Region. *Int.* 1786. *Ht.* 6 in. to 18 ft. *Species* cultivated, 4; varieties 3. *Flowers*, lilac, purple, yellow, green; Ap. to July. *Compost*, calcareous loam or clay mixed with pieces of limestone. *Position*, sunny deep well drained borders. *Plant*, Aug. to Nov., placing tubers 2 in. below surface. *Water* freely during growing period. *Mulch* with decayed manure annually in Mar. or Ap. *Lift* & replant when unhealthy only. *Propagate* by division of tubers, Aug. to Nov

Serapias Turbith (*Aster tripolium*)—see Aster.

Sericographis.—*Ord.* Acanthaceæ. Stove flowering perennial. *Nat.* Mexico. *Int.* 1843. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, scarlet; Oct. to Feb. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, well drained pots in light stove, Sept. to June; sunny frame, June to Sept. *Pot*, Mar. or Ap. *Water* moderately, Sept. to Mar; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally, May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to July.

Serpent's Beard (*Ophiopogon japonicus*)—see Ophiopogon.

Serpent's-tongue (*Erythronium americanum*)—see Erythronium.

Serpyllum-leaved Sun-rose (*Helianthemum serpyllifolia*)—see Helianthemum.

Service-berry (*Amelanchier canadensis*)—see Amelanchier.

Service-tree (*Pyrus Sorbus*)—see Pyrus.

Sesban (*Sesbania ægyptica*)—see Sesbania.

Sesbania (Pea-tree).—*Ord.* Leguminosæ. Stove climbing shrubs & greenhouse annuals. *Nat.* Egypt, E. Indies, Mexico, Florida, *Int.* 1680. *Ht.* 4 to 30 ft. *Species* cultivated, 4 stove shrubs; 2 greenhouse annuals; 1 stove biennial. *Flowers*, yellow, rose; May to Aug. CULTURE OF SHRUBBY SPECIES (*S. grandiflora*, etc.): *Compost*, equal parts loam & peat with little sand. *Position*, well drained pots or beds with shoots trained to trellis or up rafters of roof. *Pot* or plant, Feb. or Mar. *Shade* from sun. *Syringe* daily, Ap. to Aug. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Sept. to Ap., 60° to 70°; Ap. to Sept., 75° to 85°. CULTURE OF ANNUAL SPECIES (*S. macrocarpa*, etc.): *Compost*, equal parts loam, leaf-mould, peat, & sand. *Sow* seeds thinly in well drained pots or pans in Feb. or Mar.; cover lightly with fine mould, & place under bell-glass in temp. of 60° to 70°. *Transplant* seedlings when three leaves form 3 in a 3-in. pot & grow in a temp. of 55° to 65°. *Transfer* to 6 or 8 in. pots when well rooted. *Train* shoots to trellis. *Water* freely. *Apply* weak stimulants when flowers form. *Place* in cool greenhouse when in flower. *Propagate* shrubby species by cuttings of half-ripened shoots, 2 in. long, inserted in sand under bell-glass in temp. of 70° to 80° in sum.

Seven-year Vine (*Ipomœa tuberosa*)—see Ipomæa.

Seville Orange-tree (*Citrus aurantium amara*)—see Citrus.

Shad-bush (*Amelanchier canadensis*)—see Amelanchier.

Shaddock-tree (*Citrus decumana*)—see Citrus.

Shad-flower (*Amelanchier canadensis*)—see Amelanchier.

Shaggy-fruited Rose (*Rosa villosa*)—see Rose.

Shaggy-leaved Primrose (*Primula villosa*)—see Primula.

Shaggy Lychnis (*Lychnis Haageana*)—see Lychnis.

Shaggy Toad flax (*Linaria villosa*)—see Linaria.

Shaggy Windflower (*Anemone vernalis*)—see Anemone.

Shaking Grass (*Briza media*)—see Briza.

Shallon-shrub (*Gaultheria shallon*)—see Gaultheria.

Shallot (*Allium ascalonicum*)—see Onion.

Shamrock Pea (*Parochetus communis*)—see Parochetus.

Shanghae Jasmine (*Rhyncospermum jasminoides*)—see Rhyncospermum.

Shanghae Oil-plant (*Brassica chinensis*)—see Brassica.

Share-wort (*Aster tripolium*)—see Aster.

Shaylock's Snowdrop (*Galanthus Shaylocki*)—see Galanthus.

Sheep's-bit Scabious (*Jasione montana*)—see Jasione.

Sheep's-poison Laurel (*Kalmia angustifolia*)—see Kalmia.

She Heather (*Erica cinerea*)—see Erica.

She Oak (*Casuarina stricta*)—see Casuarina.

Shell-flower (*Chelone obliqua*)—see Chelone.

Shepherdia (Beef Suet Tree, Rabbit Berry, Missouri Berry Tree).—*Ord.* Elæagnaceæ. Hardy deciduous shrub. Orn. foliage & fruiting. *Nat.* N. America. *Int.* 1759. *Species* cultivated, 1. *Ht.* 3 to 10 ft. *Flowers*, yellow; Ap. to May. *Fruit*, scarlet & yellow. *Leaves*, egg-shaped & silvery. *Soil*, ordinary. *Position*, open or shady shrubberies & inland or seaside gardens. *Plant*, Oct. to Feb. *Propagate* by seeds sown ½ in. deep outdoors in Nov. or Dec.; by cuttings of roots inserted in Feb. or Mar. in ordinary soil outdoors; layering shoots in autn.

Shepherd's Club (*Verbascum Thapsus*)—see Verbascum.

Shepherd's Club Mullein (*Verbascum Thapsus*)—see Verbascum.

Shepherd's Myrtle (*Ruscus aculeatus*)—see Ruscus.

Shepherd's Rod (*Dipsacus pilosus* & *D. sylvestris*)—see Dipsacus.

Shepherd's Staff (*Dipsacus pilosus* & *D. sylvestris*)—see Dipsacus.

Shield Fern (*Polystichum angulare*)—see Polystichum.

Shield-flower (*Aspidistra lurida*)—see Aspidistra.

Shield-leaved Saxifrage (*Saxifraga peltata*)—see Saxifraga.

Shingle Oak (*Quercus imbricaria*)—see Quercus.

Shining Begonia (*Begonia lucida*)—see Begonia.

Shining-leaved Laurestinus (*Viburnum Tinus lucidum*)—see Viburnum.

Shining-leaved Privet (*Ligustrum japonicum lucidum*)—see Ligustrum.

Shining-leaved Rose (*Rosa lucida*)—see Rosa.

Shining Rock Purslane (*Calandrinia nitida*)—see Calandrinia.

Shin-leaf (*Pyrola elliptica*)—see Pyrola.

Shoe-black-plant (*Hibiscus rosa-sinensis*)—see Hibiscus.

Shooting Star (*Dodecatheon meadia*)—see Dodecatheon.

Shortia.—*Ord.* Diapensiaceæ. Hardy perennial herb. *Nat.* Alleghany Mountains. *Int.* 1888. *Ht.* 4 in. *Species* cultivated, 1. *Flowers*, white, Feb. to May. *Soil*, equal parts sandy peat & leaf-mould. *Position*, partially shady border, rhododendron bed, or cold frame. *Plant*, Ap. *Water* freely in dry weather. *Protect* with thick layer of cocoanut-fibre refuse & dry bracken. *Propagate* by division of roots in Ap.

Short-leaved Stonecrop (*Sedum brevifolium*)—see Sedum.

Short-stalked Honeysuckle (*Lonicera brachypoda*)—see Lonicera

Showy Amaranth (*Amarantus speciosus*)—see Amarantus.

Showy American Orchis (*Orchis spectabilis*)—see Orchis.

Showy Azalea (*Azalea speciosa*)—see Azalea.

Showy Cone-flower (*Rudbeckia speciosa*)—see Rudbeckia.

Showy Flea-bane (*Erigeron speciosa*)—see Erigeron.

Showy-flowered Bramble (*Rubus spectabilis*)—see Rubus.

Showy-flowered Raspberry (*Rubus spectabilis*)—see Rubus.

Showy Groundsel (*Senecio speciosus*)—see Senecio.

Showy Lady's-slipper (*Cypripedium spectabile*)—see Cypripedium.

Showy Larkspur (*Delphinium formosum*)—see Delphinium.

Showy Lobelia (*Lobelia speciosa*)—see Lobelia.

Showy Milfoil (*Achillea nobilis*)—see Achillea.

Showy Mock Orange (*Philadelphus speciosus*)—see Philadelphus.

Showy Pentstemon (*Pentstemon speciosus*)—see Pentstemon.

Showy Primrose (*Primula spectabilis*)—see Primula.

Showy Sea Lavender (*Statice speciosa*)—see Statice.

Showy Star-wort (*Aster spectabilis*)—see Aster.

Showy Sun-rose (*Helianthemum venustum*)—see Helianthemum.

Showy Syringa (*Philadelphus speciosus*)—see Philadelphus.

Showy Tamarisk-tree (*Tamarix spectabilis*)—see Tamarix.

Showy Tooth-wort (*Dentaria digitata*)—see Dentaria.

Showy White-flowered Bramble (*Rubus deliciosus*)—see Rubus.

Shrubby Bindweed (*Convolvulus cneorum*)—see Convolvulus.

Shrubby Cinquefoil (*Potentilla fruticosa*)—see Potentilla.

Shrubby Gromwell (*Lithospermum fruticosum*)—see Lithospermum.

Shrubby Meadow-sweet (*Spiræa ariæfolia*)—see Spiræa.

Shrubby Rest-harrow (*Ononis fruticosa*)—see Ononis.

Shrubby Rock Rose (*Cistus villosus* & *C. frutescens*)—see Cistus.

Shrubby Star-wort (*Aster albescens* & *Eurybia ramulosa*)—see Aster & Eurybia.

Shrubby Tansy (*Tanacetum suffructicosum*)—see Tanacetum.

Shrubby Tree-Celandine (*Bucconia frutescens*)—see Bucconia.

Siberian Apricot (*Armeniaca sibirica*)—see Armeniaca.

Siberian Barberry (*Berberis sibirica*)—see Berberis.

Siberian Iris (*Iris sibirica*)—see Iris.

Siberian Lady's-slipper (*Cypripedium macranthum*)—see Cypripedium.

Siberian Larkspur (*Delphinium grandiflorum*)—see Delphinium.

Siberian Lung-wort (*Pulmonaria sibirica*)—see Pulmonaria.

Siberian Orange Lily (*Lilium davuricum*)—see Lilium.

Siberian Purslane (*Claytonia sibirica*)—see Claytonia.

Siberian St. John's-wort (*Hypericum ascyron*)—see Hypericum.

Siberian Savin-tree (*Juniperus pseudo-sabina*)—see Juniperus.

Siberian Scarlet Lily (*Lilium pulchellum*)—see Lilium.

Siberian Skull Cap (*Scutellaria macrantha*)—see Scutellaria.

Siberian Speedwell (*Veronica sibirica*)—see Veronica.

Siberian Spruce (*Picea sibirica* & *P. obovata*)—see Picea.

Siberian Squill (*Scilla sibirica*)—see Scilla.

Sibthorpia (Cornish Money-wort).—*Ord.* Scrophulariaceæ. Greenhouse & hardy creeping perennial herbs. *Nat.* Britain, Madeira. *Species* cultivated, 2; variety 1. *Flowers*, yellow; July. *Leaves*, small, round, green, or variegated with white. CULTURE OF S. EUROPÆA VARIEGATA: *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, moist partially shady borders or rockeries outdoors, or in pots or pans in cold frame, or cool shady indoor fernery or greenhouse under bell-glass. *Pot* or plant, Mar. or Ap. *Water* copiously in dry weather outdoors; also indoors, Ap. to Sept.; moderately other times. *Moist* atmosphere essential for indoor culture. CULTURE OF S. PEREGRINA: *Compost*, as above. *Position*, pots or baskets suspended from roof. *Pot*, Feb. or Mar. *Shade* from sun. *Water* copiously in sum.; moderately in winter. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 50° to 60°. *Propagate* by cuttings inserted in pots of light soil placed under bell-glass in cold greenhouse or frame in sum.; division of plants in Ap.

Sibthorp's Daffodil (*Narcissus obvallaris*)—see Narcissus.

Sicilian Saffron-plant (*Crocus odorus*)—see Crocus.

Sickle-pine-coned Chinese Arbor-vitæ (*Biota falcata*)—see Biota.

Sidalcea.—*Ord.* Malvaceæ. Hardy perennial herbs. *Nat.* Colorado, Texas. *Int.* 1838. *Ht.* 18 in. to 3 ft. *Species* cultivated, 2. *Flowers*, white lilac; sum. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to A *Lift*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown ⅛ in deep in light soil in Ap., transplanting seedlings when 1 in. high; division of roots, Oct. to Ap.

Side-saddle-flower (*Sarracenia purpurea*)—see Sarracenia.

Sieber's Crocus (*Crocus Sieberi*)—see Crocus.

Siebold's Plantain Lily (*Funkia Sieboldi*)—see Funkia.

Siebold's Primrose (*Primula Sieboldi*)—see Primula.

Siebold's Stonecrop (*Sedum Sieboldi*)—see Sedum.

Sikkim Cowslip (*Primula sikkimensis*)—see Primula.

Sikkim Poppy (*Meconopsis simplicifolia*)—see Meconopsis.

Sikkim Rhubarb (*Rheum nobile*)—see Rheum.

Silene (Campion, Catchfly).—*Ord.* Caryophyllaceæ. Hardy annuals & herbaceous perennials. *Nat.* Britain, Europe, Asia, N. America, Mexico, Africa, Egypt. *Int.* (foreign species) 1640. *Ht.* 2 in. to 3 ft. *Species* cultivated, 59 annuals; 69 perennials. *Flowers*, rose, pink, purple, white, lilac, yellow, red; May to Sept. CULTURE OF ANNUAL SPECIES (*S. pendula*, etc.): *Soil*, ordinary light or sandy. *Position*, sunny beds or borders. *Sow* seeds in Aug. or Sept. ⅛ in. in a bed of light rich soil; transplanting seedlings when 1 in. high, 2 to 3 in. apart; & plant 6 in. apart in flowering positions in Mar for spring blooming. *Sow* also in similar depth & position in Ap., transplant when 1 in. high to flowering positions for sum. blooming. Or sow when required to grow & flower in Ap., thinning out seedlings in May or June to 6 in. apart. CULTURE OF PERENNIAL SPECIES (*S. acaulis*, *S. maritima*, *S virginica*, etc.): *Soil*, sandy loam, enriched with decayed cow dung; ⅓ loam. ⅓ peat, ⅓ stones for *S. Elisabethæ*. *Position*, sunny crevices or ledges of rockeries for *S. acaulis*, *S. alpestris*, *S. pumilo*, *S. virginica*, & *S. Elisabethæ*; open borders for *S. maritima*, etc. *Plant*, Mar. or Ap. *Top-dress* annually in Mar. with decayed cow dung & sandy loam. *Lift* & replant only when absolutely necessary. *Propagate* perennials by seeds sown in pans or boxes of sandy loam & leaf-mould, lightly covered with fine mould, & placed in cold frame in Mar. or Ap.; by cuttings of young shoots inserted in sandy loam in cold frame in sum.; by division in Mar. or Ap.

Silk-bark Oak (*Grevillea robusta*)—see Grevillea.

Silk-Vine (*Periploca græca*)—see Periploca.

Silk-weed (*Asclepias tuberosa*)—see Asclepias

Silky Daphne (*Daphne sericea*)—see Daphne

Silky Dogwood (*Cornus sericea*)—see Cornus.

Silky-leaved Rock Rose (*Cistus sericeus*)—see Cistus.

Silky-leaved Rose (*Rosa sericea*)—see Rosa.

Silky Oak (*Grevillea robusta*)—see Grevillea.

Silky Star-wort (*Aster sericeus*)—see Aster.

Silphium (Compass Plant, American Cups, Pilot Weed, Rosin Plant).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* N. America. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species* cultivated, 5. *Flowers*, white, yellow; July to Sept. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Ap. *Lift*, divide, & replant every 2 or 3 years. *Propagate* by division of roots, Oct. to Ap.

Silver Bell Tree (*Halesia tetraptera*)—see Halesia.

Silver-bracts (*Pachyphytum bracteosum*)—see Pachyphytum.

Silver-edged Alaternus (*Rhamnus alaternus argenteus*)—see Rhamnus.

Silver-edged Hydrangea (*Hydrangea japonica variegata*)—see Hydrangea.

Silver-edged-leaved Spindle-tree (*Euonymus japonicus argenteus*)—see Euonymus.

Silver-edged Primrose (*Primula marginata*)—see Primula.

Silver Fir (*Picea pectinata*)—see Picea.

Silver Grass (*Phalaris arundinacea variegata*)—see Phalaris.

Silver-head (*Paronychia argyrocoma*)—see Paronychia.

Silver-leaved Jasmine (*Jasminum officinale foliis-argenteis*)—see Jasminum.

Silver-leaved Lime-tree (*Tilia argentea*)—see Tilia.

Silver-leaved Palmetto Palm (*Thrinax argentea*)—see Thrinax.

Silver Maple (*Acer dasycarpum*)—see Acer.

Silver Moss Saxifrage (*Saxifraga cæsia*)—see Saxifraga.

Silver Pine (*Pinus picea*)—see Pinus.

Silver-rod (*Asphodelus racemosus*)—see Asphodelus.

Silver-striped Holly (*Ilex aquifolium argenteo-variegata*)—see Ilex.

Silver-striped-leaved Ash (*Fraxinus excelsior argentea*) — see Fraxinus.

Silver-tree (*Elæagnus argentea*)—see Elæagnus.

Silver-variegated Japan Cypress (*Retinospora obtusa argentea*)—see Retinospora.

Silver-variegated Platanus-leaved Maple (*Acer platanoides variegatum*)—see Acer.

Silver-variegated Snake's-beard (*Ophiopogon spicatus argente marginatus*)—see Ophiopogon.

Silver-variegated Yew (*Taxus baccata argentea*)—see Taxus.

Silver Vine (*Pothos argentea*)—see Pothos.

Silver Wattle (*Acacia dealbata*)—see Acacia.

Silvery Bind-weed (*Convolvulus cneorum*)—see Convolvulus.

Silvery Cedar (*Cedrus atlantica*)—see Cedrus.

Silvery Clary (*Salvia argentea*)—see Salvia.

Silvery Cud-weed (*Antennaria tomentosa*)—see Antennaria.

Silvery-leaved Arbor-vitæ (*Thuia occidentalis argentea*)—see Thuia.

Silvery-leaved Box-tree (*Buxus sempervirens argentea*)—see Buxus.

Silvery-leaved Cineraria (*Cineraria maritima*)—see Cineraria.

Silvery-leaved Oleaster (*Elæagnus argentea*)—see Elæagnus.

Silvery-leaved Red Cedar (*Juniperus virginiana argentea*)—see Juniperus.

Silvery-leaved Sage (*Salvia argentea*)—see Salvia.

Silvery-leaved Salt-tree (*Halimodendron argenteum*)—see Halimodendron.

Silvery-leaved Sunflower (*Helianthus argyrophyllus*)—see Helianthus.

Silvery Mug-wort (*Artemisia argentea*)—see Artemisia.

Silvery Rattlesnake Plantain (*Goodyera pubescens*)—see Goodyera

Silvery Reed (*Arundo conspicua*)—see Arundo.

Silvery Rhododendron (*Rhododendron argenteum*)—see Rhododendron.

Silvery Scabious (*Centaurea argentea*)—see Centaurea.

Silvery Tree Fern (*Cyathea dealbata*)—see Cyathea.

Silybium (Milk Thistle).—*Ord.* Compositæ. Hardy perennial herb. Orn. foliage. *Nat.* S. Europe. *Int.* date unknown. *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Leaves*, large, variegated with broad white veins. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown ½ in. deep in Mar. where plants are to grow.

Simmond's Bamboo (*Bambusa Simmondsi*)—see Bambusa.

Simpson's Hardy Hedgehog Cactus (*Echinocactus Simpsoni*)—see Echinocactus.

Sinapis (Mustard).—*Ord.* Cruciferæ. Hardy annual. *Nat.* Britain. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, yellow May & June. *Leaves* used in conjunction with those of cress for salads. OUTDOOR CULTURE: *Soil*, ordinary. *Position*, open borders. *Sow* seeds on surface of soil, water, & cover with mats or boards till they germinate; or in drills ½ in. deep, & 6 in. apart. *Make* first sowing end of Mar., follow with successional sowings every 5 days until Sept., then cease. *Gather* for salading when 1 in. high. Two crops sufficient off one piece of ground. INDOOR CULTURE: *Sow* seed on surface of light soil in shallow boxes, moisten with tepid water, cover with sheet of paper, slate, or board, & place in warm position in greenhouse or room. *Sow* for succession every 3 days. Two crops may be grown in same soil. *Seeds* may be sown on flannel kept moist in a warm room, at any time of year.

Singapore Wax-Dammar (*Podocarpus polystachya*)—see Podocarpus.

Single Spruce (*Abies alba*)—see Abies.

Sinningia.—See Gloxinia.

Sisyrinchium (Blue-eyed Grass, Pig-root, Satin-flower, Rush Lily).—*Ord.* Iridaceæ. Hardy & half-hardy perennials. *Nat.* N. America, Mexico, Brazil, Chili. *Int.* 1693. *Ht.* 6 to 12 in. *Species* cultivated, 5 hardy; about 8 half hardy. CULTURE OF HARDY SPECIES (*S. grandiflorum*, etc.): *Soil*, two parts sandy loam, one part peat. *Position*, sunny rockery. *Plant*, Oct. or May. CULTURE OF HALF-HARDY SPECIES (*S. iridiflorum*, etc.): *Compost*, equal parts sandy loam, leaf-mould, & sand. *Position*, sunny cold frame or greenhouse all the year round. *Pot*, Oct. or Mar. *Water* freely, Mar. to Sept.; keep nearly dry afterwards. *Repot* annually. *Propagate* by offsets, removed & potted in Mar.

Sium (Skirret).—*Ord.* Umbelliferæ. Hardy esculent-rooted perennial. *Nat.* China. *Int.* 1548. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, white; Aug. *Roots*, cylindrical, clustered, white, sweet-flavoured. *Soil*, ordinary fine, rich, deeply trenched, free from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills ½ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., twist off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures for*: 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. of guano mixed per square rod (30¼ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Six-angled Stonecrop (*Sedum sexangulare*)—see Sedum.

Skewer-wood (*Cornus sanguinea* & *Euonymus europæus*)—see Cornus & Euonymus.

Skimmia.—*Ord.* Rutaceæ. Hardy evergreen berry-bearing & orn. foliage shrubs. *Nat.* Himalayas, Japan. *Int.* 1845. *Species* cultivated, 7. *Ht.* 3 to 4 ft. *Flowers*, white; fragrant; Mar. to Ap. *Berries* scarlet; autn. *Soil*, stiff loam or loam & peat. *Position*, partially shady or open sheltered borders. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by seeds sown when ripe in sandy loam & peat in cold frame; by cuttings of firm shoots inserted under bell-glass in temp. 55° to 65° in spring or sum.; layering shoots in autn.

Skinner's Columbine (*Aquilegia Skinneri*)—see Aquilegia.

Skirret (*Sium sisarum*)—see Sium.

Skoke (*Phytolacca decandra*)—see Phytolacca.

Sky-blue Grape-Hyacinth (*Muscari botryoides*)—see Muscari.

Sky-blue Pickerel-weed (*Pontederia azurea*) see Pontederia.

Slender Bamboo (*Bambusa gracilis*)—see Bambusa.

Slender-branched Buckthorn (*Rhamnus virgatus*)—see Rhamnus.

Slender-branched Gooseberry (*Ribes gracile*)—see Ribes.

Slender-branched Rhododendron (*Rhododendron virgatum*)—see Rhododendron.

Slender Dahlia (*Dahlia gracilis*)—see Dahlia.

Slender Fuchsia (*Fuchsia gracilis*)—see Fuchsia.

Slender-leaved Adam's Needle (*Yucca tenuifolia*)—see Yucca.

Slender-leaved Asparagus (*Asparagus tenuifolius*)—see Asparagus.

Slender-leaved Pæony (*Pæonia tenuifolia*)—see Pæonia.

Slender-leaved Star-wort (*Aster tenuifolius*)—see Aster.

Slender Saxifrage (*Saxifraga tenella*)—see Saxifraga.

Slender Trailing Sun-rose (*Helianthemum vineale*)—see Helianthemum.

Slipper Flower (*Calceolaria calceolus*)—see Calceolaria.

Slipper-wort (*Calceolaria calceolus*)—see Calceolaria.

Slippery Elm of California (*Fremontia californica*)—see Fremontia.

Sloe-tree (*Prunus spinosa*)—see Prunus.

Small Bulbous Iris (*Iris Xiphium*)—see Iris.

Small Cape Marigold (*Calendula pluvialis*)—see Calendula.

Small-flowered Magnolia (*Magnolia parviflora*)—see Magnolia.

Small-flowered Snowdrop-tree (*Halesia parviflora*)—see Halesia.

Small-flowered Windflower (*Anemone parviflora*)—see Anemone.

Small Globe-Thistle (*Echinops Ritro*)—see Echinops.

Small Jonquil (*Narcissus pumilus*)—see Narcissus.

Small-leaved Common Elm (*Ulmus campestris parvifolia*)—see Ulmus.

Small-leaved Cotoneaster (*Cotoneaster microphylla*)—see Cotoneaster.

Small-leaved Fuchsia (*Fuchsia microphylla*)—see Fuchsia.

Small leaved Myrtle (*Myrtus communis mucronata*)—see Myrtus.

Small-leaved Red-root (*Ceanothus microphyllus*)—see Ceanothus.

Small-leaved Snowberry-tree (*Symphoricarpus microphyllus*)—see Symphoricarpus.

Small Lily (*Lilium parvum*)—see Lilium.

Small Periwinkle (*Vinca minor*)—see Vinca.

Small St. John's-wort (*Hypericum pusillum*)—see Hypericum.

Small Spreading Lobelia (*Lobelia erinus*)—see Lobelia.

Small Yellow Alyssum (*Alyssum calycinum*)—see Alyssum.

Smaller Bladder Senna (*Colutea media*)—see Colutea.

Smaller Wych Elm (*Ulmus montana minor*)—see Ulmus.

Smilacina (False Solomon's Seal, False Spikenard).—*Ord.* Liliaceæ. Hardy perennials. *Nat.* N. America, Sikim. *Int.* 1633. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, white; May. *Soil*, ordinary light deep, rich. *Position*, partially shady, moist shrubberies, woodlands, banks or borders. *Plant*, Oct. to Mar. *Propagate* by division of roots, Oct. to Mar.

Smilax (*Myrsiphyllum asparagoides*)—see Myrsiphyllum.

Smilax (Sarsaparilla Plant, American China-root, Prickly Ivy).—*Ord.* Liliaceæ. Greenhouse & hardy evergreen climbers. Orn. foliage. *Nat.* S Europe, U.S.A., Australia, China, Japan. *Int.* 1648. *Ht.* 3 to 15 ft. *Species* cultivated, 12 hardy; 2 greenhouse. *Flowers*, insignificant. CULTURE OF HARDY SPECIES (*S. aspera*, etc.): *Soil*, ordinary. *Position*, sunny walls, arbours, trellises, or banks. *Plant*, Sept. or Oct.; Mar. or Ap. CULTURE OF GREENHOUSE SPECIES (*S. ornata*, etc.): *Compost*, two parts sandy loam, one part peat, & little sand. *Position*, well drained pots or beds with shoots trained up trellis or up rafters. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 45° to 55°. *Propagate* by division of roots at planting or potting time.

Smoke-tree (*Rhus cotinus*)—see Rhus.

Smoke-wood (*Clematis vitalba*)—see Clematis.

Smooth Alum-root (*Heuchera glabra*)—see Heuchera.

Smooth False Fox-glove (*Gerardia quercifolia*)—see Gerardia.

Smooth-fruit Horse Chestnut (*Pavia rubra*)—see Pavia.

Smooth Helen-flower (*Helenium autumnale*)—see Helenium.

Smooth Honey Locust-tree (*Gleditschia lævis*)—see Gleditschia.

Smooth Iris (*Iris lævigata*)—see Iris.

Smooth-leaved Carolina Allspice (*Calycanthus lævigata*)—see Calycanthus.

Smooth-leaved Elm (*Ulmus glabra*)—see Ulmus.

Smooth-leaved Rose Campion (*Lychnis Cœli-rosa*)—see Lychnis.

Smooth-leaved Storax-plant (*Styrax lævigata*)—see Styrax.

Smooth-leaved Wych Elm (*Ulmus montana glabra*)—see Ulmus.

Smooth Lungwort (*Mertensia virginica*)—see Mertensia.

Smooth Rock Spleenwort (*Asplenium fontanum*)—see Asplenium.

Smooth Star-wort (*Aster lævis lævigatus*)—see Aster.

Snail-flower (*Phaseolus caracalla*)—see Phaseolus.

Snake-charm (*Bauhinia anguina*)—see Bauhinia.

Snake Fern (*Blechnum spicant*)—see Blechnum.

Snake Gourd (*Trichosanthes anguina*)—see Trichosanthes.

Snake-plant (*Arum dracunculus*)—see Arum.

Snake-weed (*Polygonum bistorta*)—see Polygonum.

Snake's-beard (*Ophiopogon japonicus*)—see Ophiopogon.

Snake's-head Fritillary (*Fritillaria meleagris*)—see Fritillaria.

Snake's-tongue Fern (*Lygodium japonicum*)—see Lygodium.

Snapdragon (*Antirrhinum majus*)—see Antirrhinum.

Snow-ball-tree (*Viburnum opulus*)—see Viburnum.

Snow-berry-tree (*Symphoricarpus racemosus*)—see Symphoricarpus.

Snowdrop (*Galanthus nivalis*)—see Galanthus.

Snowdrop Anemone (*Anemone sylvestris*)—see Anemone.

Snowdrop-tree (*Halesia tetraptera*)—see Halesia.

Snowdrop Windflower (*Anemone sylvestris*)—see Anemone.

Snowflake (*Leucojum vernum*)—see Leucojum.

Snowflower (*Chionanthus virginica*)—see Chionanthus.

Snow-glory (*Chionodoxa Luciliæ*)—see Chionodoxa.

Snow-in-Summer (*Cerastium tomentosum*)—see Cerastium.

Snow Pear-tree (*Pyrus nivalis*)—see Pyrus.

Snow-Rosette (*Primula minima*)—see Primula.

Snow-white Mullein (*Verbascum niveum*)—see Verbascum.

Snow-white Primrose (*Primula nivalis*)—see Primula.

Snowy-flowered Crowfoot (*Ranunculus amplexicaulis*)—see Ranunculus.

Snowy-leaved Rhododendron (*Rhododendron niveum*)—see Rhododendron.

Snowy Medlar (*Mespilus grandiflora*)—see Mespilus.

Soap-wood (*Clethra alnifolia*)—see Clethra.

Soap-wort (*Saponaria officinalis*)—see Saponaria.

Sobralia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.*

Columbia, Peru, Guiana, New Grenada, Mexico, Brazil, Central America. *Int.* 1836. *Ht.* 1 to 6 ft. *Species* cultivated, about 16; varieties several. *Flowers*, white, purplish crimson, pink, violet, yellow, rose, brown; sum. *Compost*, two parts strong turfy loam; one part of equal proportions of coarse sand & broken charcoal. *Position*, light part of house at all seasons. *Pot*, Feb. or Mar., filling pot ⅓ of its depth with coarse crocks, then add a layer of sphagnum moss & sufficient compost to fill pot to within 1 in. of its rim. *Press* soil moderately firm. *Water* copiously, Ap. to Sept.; moderately other times. *Apply* weak stimulants to established plants in sum. *Shade* from sun unnecessary. *Repot* only when soil is over-crowded with roots. *Temp.*, Oct. to Ap., 55° to 65°; Ap. to Oct., 65° to 75°. *Growing period* all the year round. *Propagate* by division at potting time.

Socotran Begonia (*Begonia socotrana*)—see Begonia.

Soft-leaved Azalea (*Azalea mollis*)—see Azalea.

Soft-leaved Bear's Brush (*Acanthus mollis*)—see Acanthus.

Soft-leaved Primrose (*Primula mollis*)—see Primula.

Soft Maple (*Acer dasycarpum*)—see Acer.

Soft Prickly Shield Fern (*Polystichum angulare*)—see Polystichum.

Solandra.—*Ord.* Solanaceæ. Stove evergreen & deciduous climbing shrubs. Flowering. *Nat.* Jamaica, Mexico, S. America, Brazil. *Int.* 1781. *Ht.* 2 to 20 ft. *Species* cultivated, 5. *Flowers*, white greenish; May to Oct. *Compost*, two parts sandy loam, one part equal proportions fibrous peat & dry cow-manure, & little sand. *Position*, pots or beds with shoots trained up rafters or round trellises. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Oct. *Keep* almost dry remainder of time. *Syringe* daily, Ap. to Sept. *Prune* weak shoots in moderately close & remove tips of stronger ones in Feb. *Temp.*, Oct. to Mar., 50° to 55°; Mar. to Oct., 65° to 85°. *Propagate* by cuttings inserted in light soil or cocoanut-fibre refuse in temp. of 65° to 75° in spring.

Solanum (Potato, Egg Plant, Winter Cherry).—*Ord.* Solanaceæ. Hardy & greenhouse annuals, half-hardy & hardy herbaceous perennials, & stove & greenhouse evergreen plants. POTATO (*S. tuberosum*): Hardy tuberous-rooted perennial. *Nat.* S. America. *Int.* 1597. *Ht.* 1 to 4 ft. *Varieties* cultivated innumerable. *Flowers*, lilac or white; sum. CLASSIFICATION: *Kidney*—oblong, white or coloured; Ex. Early Ashleaf (white), Early Rose (coloured). *Round*—roundish, white or coloured; Ex. Village Blacksmith (coloured), Imperator (white). *Pebble-shaped*—Flatish-round, white or coloured; Ex. Sutton's Satisfaction (white), Reading Russet (coloured). *Soil*, deep, rich well drained sandy or calcareous loam; or ordinary well tilled mould; both to be dug or trenched two spits deep, & decayed manure at the rate of one cart load per 5 sq. rods, placed between the first & second spit the previous autn. *Position*, sloping borders facing south, & sheltered from N. & N.E., for early sorts; open sunny parts of garden for main crops. *Plant* early sorts in Feb.; second early kinds in Mar.; late ones early in Ap. *Distances apart for rows*, 15 in. for early sorts; 2 ft. 6 in. for medium growers; 3 ft. 4 in. for robust growers. *Distances apart for "sets"*: 6 in. for early kinds; 12 in. for medium growers; 18 in. for robust ones. *Depth for planting*: 6 in. in heavy soils; 7 in. in light soils. *Quantities of Seed Required*: ⅓ peck for row 50 ft. long; 1 bushel for a row 250 ft. long; 24 to 34 heaped bushels for 1 acre. *Weight* per bushel: 53 lbs. striked; 56 lbs. heaped. *Average yield per acre*: 4 to 6 tons of early sorts; 5 to 8 tons of main-crop varieties. *Seed or "sets"*: medium-sized tubers best; large tubers should be cut into 2 or 3 portions, & wounded parts coated with slaked lime; one shoot or "chat" only to be allowed to each tuber or portion of tuber, remainder to be rubbed off before planting; tubers to be placed on end in shallow boxes & exposed to light for week or so before planting. *Fertilizers*, etc.: (1) 3½ lbs. kainit, 3½ lbs. nitrate of soda, 1 lb. sulphate of iron, 7 lbs. superphosphate of lime per sq. rod, forked in when the shoots appear through the surface; or if no stable manure was dug in the previous autn., apply the superphosphate along the drills before planting, & the remaining ingredients as above advised. (Griffiths). (2) 15 loads of stable dung, ½ cwt. guano, ½ cwt. muriate of potash, 2 cwts. superphosphate of lime per acre; to be spread along bottom of drills prior to planting sets. This formula best suited for light soils. (3) 6 lbs. of native guano per sq. rod, sprinkled along drills before planted, or hoed in when shoots are 3 in. high. *General Cultural Details*: Fork or stir surface of soil when shoots are 3 in. high; earth up when 6 in.; lift when haulm assumes yellow tinge; store tubers in dark cool place for eating; expose those for seed to light until they become greenish, then store away. *Remedy for Disease*: Dissolve 6 lbs. of sulphate of copper in 16 galls. of water: slake 4 lbs. of fresh lime in 6 galls. of water in separate vessel, & when this has cooled add it slowly to copper solution, & stir well. Allow mixture to stand three days, then stir well & spray the foliage on first indication of disease at intervals of 10 days. EGG PLANT (*S. melongena*). Half-hardy annual. *Nat.* Tropics. *Int.* 1597. *Ht.* 2 to 3 ft. *Varieties* several. *Flowers*, blue. *Fruit* egg-shaped, white, yellow, or purple. *Soil*, light, rich. *Position*, pots in sunny greenhouse, against south walls outdoors in sum. POT CULTURE: *Sow* seeds ⅛ in. deep in temp. 80° in Feb. *Place* seedlings singly in 3-in. pots in Mar. & in 6-in. pots in May. *Water* freely & grow throughout in temp. 75° to 85°. *Gather* fruit when full colour is attained. OUTDOOR CULTURE: *Sow* seeds & grow seedlings in pots as advised in previous case. *Plant* out in June. *Train* shoots thinly to wall as they grow. WINTER CHERRY (*S. capsicastrum* & *S. pseudo-capsicum*).—Greenhouse evergreen berry-bearing shrubs. *Nat.* Madeira. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 2; hybrids several. *Flowers*, white. *Fruit*, round or oval, scarlet; winter. *Compost*, equal parts leaf-mould, loam, & silver sand. *Pot*, Feb. or Mar. *Sow* seeds ⅛ in. deep in light soil in temp. 65° to 75° in Feb. or Mar. *Transplant* singly in 2-in. pots when 1 in. high. *Nip* off point of main shoot when 3 in. high. *Transfer* to 3 in. pots when new shoots form. *Harden* in cold frame during May. *Plant* 15 in. apart each way in rich soil in sunny position outdoors in June. *Nip* off points of side shoots when 3 in. long. *Lift*, pot, & place in temp. 55° to 65° in Sept. *Apply* stimulants once or twice weekly, Sept. to Feb. *Prune* shoots of old plants to within 2 in. of base in Feb. When new shoots form repot & grow in temp. 65° to 75° until June, then place in cold frame, or plant outdoors as advised for seedlings. *Insert* cuttings 2 in. long in light soil in temp. 65° to 75°. *Place* singly in 3-in. pots when rooted. *Transfer* to 4½-in. size in May. *Grow* in cold frame or plant out & lift in Sept. S. JASMINOIDES.—Half-hardy deciduous twiner. *Nat.* S. America. *Int.* 1838. *Ht.* 10 to 20 ft. *Flowers*, bluish white; sum. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, in pots, tubs, or beds with shoots trained up rafters of sunny cold greenhouse; or in bed against a south wall outdoors, S. & S.W. of England only. *Pot* or plant, Mar. *Prune* straggling shoots moderately, Jan. or Feb. *Water* freely in sum.; moderately other times. S. CRISPUM; Hardy flowering shrub. *Nat.* Chili. *Int.* 1824. *Ht.* 12 to 14 ft. *Flowers*, bluish purple; sum. *Compost*, same as for S. jasminoides. *Plant*, Mar. or Ap. *Position*, against south walls in S. of England only. *Prune* shoots in closely in Oct. *Protect* with straw or bracken in severe weather. ORNAMENTAL-LEAVED SPECIES (*S. robustum*, *S. macranthum*, *S. Warsewiczii*, etc.): Half-hardy perennials. *Nat.* Brazil. *Ht.* 2 to 4 ft. *Flowers*, white or violet; sum. *Leaves*, very large. *Stems* more or less prickly. *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Lift*, Sept. & place in temp. 55° to 65° until following June. *Best plants* ensured by sowing seeds annually in light soil in temp. 65° to 75° in Jan. or Feb., or by inserting cuttings in similar soil & temp. in Feb. or Mar. *Propagate* the potato by seeds sown ⅛ in. deep in light soil in temp. 65° to 75°, Jan. to Ap., transplanting seedlings when 1 in. high singly in 2-in. pots, then in 4½-in. pots, keeping in greenhouse until May, planting outdoors, lifting tubers in Sept., and storing them in sand in frost-proof place until following Mar., then planting outdoors; by division of the tuber into as many portions as there are latent eyes in Feb. or Mar.; by cuttings of shoots, 2 to 3 in. long, removed with a heal from the tuber, & inserted in light soil in temp. 55° to 65°, Ap.; by grafting portion of one tuber on another. Egg plant & winter cherry by seeds & cuttings as already described. S. jasminoides by cuttings of young shoots inserted in sandy peat in temp. 65° to 75° in spring.

Soldanella (Blue Moon-wort).—*Ord.* Primulaceæ. Hardy perennial herbs. *Nat.* Switzerland. *Int.* 1656. *Ht.* 2 to 3 in. *Species* cultivated, 4. *Flowers*, violet, blue, lilac, purple; Ap. & May. *Compost*, equal parts peat & loam & sharp sand. *Position*, sheltered open moist rockery. *Plant*, Mar. or Ap. *Mulch* surface of soil in dry weather with layer of cocoanut-fibre refuse. *Propagate* by seeds sown in well drained pans filled with equal parts sandy loam, peat, & sand, & lightly covered with fine soil placed in a cold shady frame, Mar. or Ap.; division of plants in Mar. or Ap.

Soldier-wood (*Calliandra purpurea*)—see Calliandra.

Soldier's-herb (*Piper angustifolium*)—see Piper.

Soldier's Yarrow (*Stratiotes aloides*)—see Stratiotes.

Solidago (Golden Rod).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Europe (Britain), N. America. *Int.* 1648. *Ht.* 6 in. to 6 ft. *Species* cultivated, about 43. *Flowers*, yellow; July to Oct. *Soil*, ordinary. *Position*, sunny or shady borders or banks. *Plant*, Oct. to Ap. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by division of roots, Oct. to Ap.

Solid-rooted Fume-wort (*Corydalis solida*)—see Corydalis.

Sollya (Australian Bluebell Creeper).—*Ord.* Pittosporaceæ. Greenhouse evergreen twining shrubs. *Nat.* Australia. *Int.* 1830. *Ht.* 4 to 6 ft. *Species* cultivated, 2. *Flowers*, blue; May to Sept. *Compost*, two parts peat, one part turfy loam & half a part silver sand. *Position*, well drained pots or beds with shoots trained to wire trellis or up rafters or pillars. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Aug. *Shade* not necessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings of shoots inserted in sand under bell-glass in temp., 65° to 75° in spring or sum.

Solomon's Seal (*Polygonatum officinalis*)—see Polygonatum.

Sonerilla.—*Ord.* Melastomaceæ. Stove perennials. Flowering & orn. foliage. *Nat.* E. Indies. *Int.* 1848. *Ht.* 6 to 12 in. *Species* cultivated, about 5. *Flowers*, purple, mauve, rose, lilac; Ap. to Nov. *Leaves*, ovate or lanceolate, green, or spotted with silvery white. *Compost*, equal parts fibry peat, chopped sphagnum, charcoal, & sand. *Position*, well drained pots or pans fully exposed to light. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Shade* from sun & moist atmosphere highly essential. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown in above compost, & lightly covered with fine mould, Jan. to Ap. in a temp. of 75° to 85°; cuttings inserted in small pots under bell-glass in temp. 75° to 85°, Jan. to May.

Sophora (Chinese Japan Pagoda Tree, New Zealand Laburnum).—*Ord.* Leguminosæ. Greenhouse & hardy evergreen & deciduous trees & shrubs. Flowering & orn. foliage. *Nat.* Sandwich Islands, Japan, China, Chili, New Zealand, Mexico, N. America, Neilgherries. *Int.* 1739. *Ht.* 4 to 40 ft. *Species* cultivated, 4 hardy; 3 greenhouse. *Flowers*, yellow, purple, cream, violet; May, June, & Oct. *Leaves*, feather-shaped. *Habit of S. japonica pendula*, weeping, graceful. CULTURE OF GREENHOUSE SPECIES (*S. macrocarpa*, etc.): *Compost*, two parts loam, one of leaf mould, & little sand. *Pot*, Oct. to Feb. *Position*, in pots or tubs in light airy part of greenhouse, Oct. to May; outdoors, May to Oct. *Water* freely, Ap. to Oct.; very little afterwards. *Prune*, Feb. or Mar. *Temp.*, Oct. to Ap., 40° to 45°; Ap. to May, 50° to 65°. CULTURE OF HARDY SPECIES (*S. japonica*, etc.): *Soil*, deep rich loam. *Position*, open sheltered lawns for *S. japonica*; sunny walls for other species. *Plant*, Oct. to Feb. *Prune* into shape, Jan. or Feb. *Protect* kinds grown against walls in severe weather by mats, straw, or bracken. *Propagate* by seeds sown ⅛ in. deep in light soil in temp. of 55° in Ap.; cuttings inserted in sandy soil in temp. of 55° in Mar. *S. japonica pendula* & *S. j. p. variegata* by grafting on common species in Mar.

Sophronitis (Scarlet-flowered Orchid).—*Ord.* Orchidaceæ. Dwarf evergreen epiphytal orchids. *Nat.* Organ Mountains, Mexico. *Int.* 1837. *Ht.* 3 to 6 in. *Species* cultivated, about 4. *Flowers*, red, cream, crimson, violet; Nov. to Mar. *Compost*, equal parts peat, sphagnum moss, & charcoal. *Position*, shallow small pans or baskets suspended from roof. *Pot*, Feb. or Mar. *Shade* from sun most essential. *Water* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Ap., 55° to 65°; Ap. to Oct., 65° to 75°. *Propagate* by division of pseudo-bulbs, Feb. or Mar.

Sorcerer's Garlic (*Allium molly*)—see Allium.

Sorghum (Millet Grass).—*Ord.* Graminaceæ. Hardy perennial. *Nat.* Mediterranean Region. *Int.* date unknown. *Ht.* 2 to 10 ft. *Species* cultivated, 1. *Inflorescence*, purplish; borne in dense panicles; autn. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Propagate* by division, Mar.

Sorrel (*Rumex acetosa*)—see Rumex.

Sorrel-tree (*Andromeda arborea*)—see Andromeda.

South American Butterfly Plant (*Oncidium papilio*)—see Oncidium.

South American Holly (*Ilex paraguayensis*)—see Ilex.

Southern Blue Sage (*Salvia azurea*)—see Salvia.

Southern Fox Grape (*Vitis vulpina*)—see Vitis.

Southern Holy Grass (*Hierochloë australis*)—see Hierochloë.

Southern Pine (*Pinus australis*)—see Pinus.

Southern Prickly Ash (*Xanthoxylon carolinianum*)—see Xanthoxylon.

Southern Red Lily (*Lilium Catesbæi*)—see Lilium.

Southern-wood (*Artemisia abrotanum*)—see Artemisia.

Sow-bread (*Cyclamen europæum*)—see Cyclamen.

Spanish Arbour-vine (*Ipomœa tuberosa*)—see Ipomœa.

Spanish Bayonet (*Yucca aloifolia*)—see Yucca.

Spanish Broom (*Spartium junceum*)—see Spartium.

Spanish Calalu (*Phytolacca octandra*)—see Phytolacca.

Spanish Carnation (*Poinciana pulcherrima*)—see Poinciana.

Spanish Chestnut (*Castanea vesca*)—see Castanea.

Spanish Dagger (*Yucca aloifolia*)—see Yucca.

Spanish Fennel-flower (*Nigella hispanica*)—see Nigella.

Spanish Furze (*Genista hispanica*)—see Genista.

Spanish Hyacinth (*Hyacinthus amethystinus*)—see Hyacinthus.

Spanish Jasmine (*Jasminum grandiflorum*)—see Jasminum.

Spanish Juice-plant (*Glycyrrhiza glabra*)—see Glycyrrhiza.

Spanish Moss (*Tillandsia usneoides*)—see Tillandsia.

Spanish Nut (*Corylus avellana barcelonensis*)—see Corylus.

Spanish Plane Tree (*Platanus acerifolia hispanica*)—see Acer.

Spanish Potato (*Batatas edulis*)—see Batatas.

Spanish Rest-harrow (*Ononis hispanica*)—see Ononis.

Spanish Silver Fir (*Picea pinsapo*)—see Picea.

Spanish Squill (*Scilla campanulata*)—see Scilla.

Spanish Traveller's Joy (*Clematis cirrhosa*)—see Clematis.

Spanish-tuft (*Thalictrum aquilegifolium*)—see Thalictrum.

Spanish Wild Cucumber (*Clematis cirrhosa*)—see Clematis.

Sparaxis (African Harlequin Flower).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* S. Africa. *Int.* 1758. *Ht.* 6 in. to 2 ft. *Species* cultivated, 5; varieties many. *Flowers*, white, yellow, lilac purple, crimson, orange; fragrant; Ap. to Aug. OUTDOOR CULTURE: *Soil*, light, rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow-manure. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Sparmannia (African Hemp).—*Ord.* Tiliaceæ. Greenhouse evergreen shrub. *Nat.* S. Africa. *Int.* 1790. *Ht.* 10 to 20 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; single & double; sum. *Compost*, two parts loam, one part peat, & little sand. *Position*, pots in light airy greenhouse, Sept. to June; sunny spot outdoors remainder of time. *Pot*, Feb. or Mar. *Prune* moderately close, Nov. to Dec. *Water* copiously, Ap. to Oct.: moderately afterwards. *Apply* stimulants, Ap. to Sept. *No* shade or syringing required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings inserted singly in small pots filled with sandy soil under bell-glass in temp. 55° to 65°, spring or sum.

Sparrow Grass (*Asparagus officinalis*)—see Asparagus.

Spartium (Rush or Spanish Broom).—*Ord.* Leguminosæ. Hardy deciduous flowering shrub. *Nat.* Mediterranean Region, Canary Islands. *Int.* 1548. *Ht.* 6 to 10 ft. *Species* cultivated, 1; variety 1. *Flowers*, yellow, single & double, fragrant; June to Oct. *Soil*, ordinary. *Position*, sunny open borders or dry banks. *Plant*, Oct. to Mar. *Propagate* by seeds sown ½ in. deep in drills in fine soil in sunny position outdoors, autn. or spring; cuttings of young shoots inserted in sandy soil under bell-glass or in cold frame in sum.

Spatlum (*Lewisia rediviva*)—see Lewisia.

Spear-flower (*Ardisia crenulata*)—see Ardisia.

Spear-leaved Bell-flower (*Campanula lanceolata*)—see Campanula.

Spear-leaved Lily (*Lilium lancifolium*)—see Lilium.

Spear-leaved Plantain Lily (*Funkia lanceolata*)—see Funkia.

Spear Mint (*Mentha viridis*)—see Mentha.

Spectral-flowered Orchid (*Masdevallia chimæra*)—see Masdevallia.

Specularia (Venus's Looking Glass, Corn Violet).—*Ord.* Campanulaceæ. Hardy annuals. *Nat.* Europe (Britain), N. America. *Int.* (Venus's Looking Glass) 1596. *Ht.* 3 to 20 in. *Species* cultivated, 4. *Flowers*, lilac, purplish blue; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds in Ap. thinly 1/16 in. deep in patches or lines where required to grow. *Thin* seedlings when 1 or 2 in. high to 3 to 6 in. apart. *Support* plants with small twigs when 3 to 6 in. high.

Speedwell (*Veronica officinalis*)—see Veronica.

Spergula pilifera—see Sagina procumbens.

Sphenogyne.—*Ord.* Compositæ. Half-hardy annual. *Nat.* Mexico. *Int.* 1836. *Ht.* 10 to 12 in. *Species* cultivated, 1 (S. speciosa). *Flowers*, yellow, brown; July to Sept. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds, Feb. or Mar. in ordinary light mould in pots, pans, or boxes in temp. 55° to 65°, & transplant seedlings when an inch high to 3 in. apart in shallow boxes; place in cold frame in Ap., harden off & plant outdoors, May or June. *Also* sow seeds in open ground in Ap. where required to grow, & thin seedlings to 4 or 6 in. apart when 1 to 6 in. high.

Spice-bush (*Laurus Benzoin*)—see Laurus.

Spider Fern (*Pteris serrulata*)—see Pteris.

Spider-flower (*Cleome lutea*)—see Cleome.

Spider Orchis (*Orchis arachnites*)—see Orchis.

Spigelia (Carolina Pink, Maryland Pink-root, Worm Grass).—*Ord.* Loganiaceæ. Stove annuals or perennials & hardy herbaceous perennials. *Nat.* Brazil, Mexico, N. America. *Int.* 1694. *Ht.* 6 to 18 in. *Species* cultivated, 1 stove annual; 1 stove perennial; 1 hardy herbaceous perennial. *Flowers*, scarlet, red, purplish; sum. CULTURE OF STOVE SPECIES (*S. splendens*, etc.): *Compost*, equal parts loam, peat, & sand. *Position*, well drained pots in light part of stove. *Pot*, Jan. to Feb. *Water* freely, Ap. to Sept.; moderately other times. *Syringe* daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. CULTURE OF HARDY SPECIES (*S. marilandica*): *Soil*, equal parts loam, leaf-mould, peat, & sand. *Position*, partially shady border containing 2 ft. in depth of above compost. *Plant*, Mar. or Ap. *Water* copiously during sum. *Propagate* annual species by seeds sown in temp. of 75° to 85°, Jan. to Ap.; perennial species by cuttings inserted in sandy peat under bell-glass in temp. 75° to 85° in spring; hardy perennial species by division of roots, Mar. or Ap.

Spike Oil-plant (*Lavandula spica*)—see Lavandula.

Spiked Horned-Rampion (*Phyteuma spicatum*)—see Phyteuma.

Spiked Louse-wort (*Pedicularis comosa*)—see Pedicularis.

Spiked Sea Lavender (*Statice spicata*)—see Statice.

Spikenard Oil-plant (*Andropogon Schœnanthus*)—see Andropogon.

Spinach (*Spinacia oleracea*)—see Spinacia.

Spinach Beet (*Beta Brasiliensis* & *B. cicla*)—see Beta.

Spinacia (Spinach).—*Ord.* Chenopodiaceæ. Hardy annual. Esculent-leaved vegetable. *Nat.* S. E. Europe. *Int.* 1568. *Ht.* 12 to 18 in. *Species* cultivated 1; varieties 2. *Flowers*, green. *Soil*, deep, rich moist ordinary for sum. spinach; rich, moderately dry for winter kind. *Position*, sunny. *Sow* seeds of sum. spinach at intervals of a fortnight, Feb. to Aug., in drills 1 in. deep & 12 in. apart; winter spinach, Aug. & Sept. in drills 1 in. deep & 15 in. asunder. *Thin* winter spinach to 6 in. apart when three leaves form. *Fertilizer*: (1) $1\frac{1}{4}$ lbs. kainit, $1\frac{1}{2}$ lbs. sulphate of soda; $1\frac{1}{2}$ lbs. sulphate of ammonia; 2 lbs. superphosphate per sq. rod, applied when plants are 2 in. high. (2) Native guano, applied at the rate of 10 lbs. per sq. rod when plants are 2 in. high.

Spindle-tree (*Euonymus europæus*)—see Euonymus.

Spiny Bear's-breech (*Acanthus spinosus*)—see Acanthus.

Spiræa (Meadow Sweet).—*Ord.* Rosaceæ. Hardy deciduous and evergreen flowering shrubs & herbaceous perennials. *Nat.* Europe (Britain), Japan, N. America, Siberia, China, Cashmere, & Mexico. *Int.* (foreign species) 1640. *Ht.* 1 to 6 ft. *Species* cultivated, 13 hardy herbaceous; about 45 hardy deciduous shrubs; 5 hardy evergreen shrubs. *Flowers*, white, rose, red; fragrant; May to Oct. CULTURE OF HARDY HERBACEOUS SPECIES (*S. filipendula*, *S. palmata*, *S. aruncus*, *S. ulmaria*, etc.): *Soil*, ordinary rich, well manured. *Position*, partially shady or sunny borders; margins of streams, etc. for *S. ulmaria*. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* annually in Ap. with decayed manure. *Water* copiously in dry weather. *Lift*, divide, & replant every three or four years. CULTURE OF SHRUBBY SPECIES (*S. ariæfolia*, *S. Douglassi*, *S. prunifolia fl. pl.*, etc.): *Soil*, good ordinary or loamy. *Position*, open sunny borders or shrubberies. *Plant*, Sept. to Mar. *Prune* straggly shoots moderately close directly after flowering. CULTURE OF S. JAPONICA: *Compost*, equal parts loam & leaf-mould. *Pot* roots, Oct. or Nov., singly in 5 or 6 in. pots. *Place* in cold frame until required for forcing, or remove to ordinary heated greenhouse in Jan., cold house in Feb. *Temp.* for forcing 55° to 65°. *Water* moderately when first brought into forcing or greenhouse; freely when growth begins. *Apply* weak stimulants—$\frac{1}{4}$ oz. of guano to gall.

of water—when flower spikes show. *Remove* to cold frame after flowering & plant out in sunny position in June. Let plants remain thus for two years, then lift, place in pots, & use for forcing. *Plants* will not flower freely two years in succession when grown in pots. *Propagate* herbaceous kinds by division of the roots, Oct. to Mar; shrubby ones by cuttings of young shoots inserted in sandy soil under hand-light or in frame in shade, sum.; also by offsets removed & planted in autn.

Spire Lily (*Galtonia candicans*)—see Galtonia.

Spire-reed (*Arundo phragmites*)—see Arundo.

Spleenwort (*Asplenium trichomanes*)—see Asplenium.

Splendid Flamingo Plant (*Anthericum magnificum*)—see Anthericum.

Spoon-wood-tree (*Kalmia latifolia*)—see Kalmia.

Spoonwort (*Cochlearia officinalis*)—see Cochlearia.

Spotted Alder (*Hamamelis virginica*)—see Hamamelis.

Spotted Dead-Nettle (*Lamium maculatum*)—see Lamium.

Spotted Golden Borage (*Arnebia echioides*)—see Arnebia.

Spotted Indian Crocus (*Pleione maculata*)—see Pleione.

Spotted Lady's Slipper (*Cypripedium guttatum*)—see Cypripedium.

Spotted Laurel (*Aucuba japonica*)—see Aucuba.

Spotted-leaved Arum Lily (*Richardia maculata*)—see Richardia.

Spotted-leaved Winter-green (*Pyrola maculata*)—see Pyrola.

Spotted Lily (*Lilium speciosum*)—see Lilium.

Spotted Monkey-flower (*Mimulus guttatus*)—see Mimulus.

Spotted Orchis (*Orchis maculata*)—see Orchis.

Spotted Sun-rose (*Helianthemum guttatum*)—see Helianthemum.

Spraguea.—*Ord.* Portulacaceæ. Half-hardy perennial herb. *Nat.* California. *Int.* 1858. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, white, purple; July to Oct. *Soil*, ordinary. *Position*, edges of sunny well drained borders or rockeries. *Plant*, Ap. or May. *Propagate* by seeds, sown Feb. or Mar., in well drained pots or pans in above compost, in temp of 55° to 60°; transplanting seedlings an inch apart in 3-in. pots when large enough to handle, afterwards hardening off in cold frame & planting out in May; cuttings of shoots inserted in sandy peat under bell-glass in temp. of 55° to 65° in spring.

Spread Eagle Orchid (*Oncidium carthaginense*)—see Oncidium.

Spreading Bell-flower (*Campanula patula*)—see Campanula.

Spreading Sage (*Salvia patens*)—see Salvia.

Sprekelia (Jacobean Lily).—*Ord.* Amaryllidaceæ. Stove deciduous bulbs. *Nat.* Guatemala. *Int.* 1658. *Ht.* 6 to 9 in. *Species* cultivated, 1; varieties 2. *Flowers*, crimson, white, green; Ap. to June. *Compost*, two parts turfy loam, one part river sand, & a few crushed bones. *Position*, well drained pots in light part of stove. *Pot*, Feb., burying bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* large bulbs annually & repot every three or four years only. *Temp.*, Feb. to Sept., 65° to 75°; Sept. to Feb., 50° to 55°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings singly in 2-in. pots, & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs. *Seedlings* are six to seven years before they flower.

Spring Beauty (*Claytonia virginica*)—see Claytonia.

Spring Bell (*Sisyrinchium grandiflorum* —see Sisyrinchium.

Spring Bitter Vetch (*Orobus vernus*)—see Orobus.

Spring Crocus (*Crocus vernus*)—see Crocus.

Spring Cyclamen (*Cyclamen vernum*)—see Cyclamen.

Spring-flowering Squill (*Scilla verna*)—see Scilla.

Spring Gentian (*Gentiana verna*)—see Gentian.
Spring Meadow-Saffron (*Bulbocodium vernum*)—see Bulbocodium.
Spring Satin-flower (*Sisyrinchium grandiflorum*)—see Sisyrinchium.
Spring Snowflake (*Leucojum vernum*) - see Leucojum.
Spring Star-flower (*Triteleia uniflora*)—see Triteleia.
Spruce (*Abies excelsa*)—see Abies.
Spruce Pine (*Abies excelsa*)—see Abies.
Spurge Flax (*Daphne mezereum*)—see Daphne.
Spurge Laurel (*Daphne laureola*)—see Daphne.
Spurge Nettle (*Jatropha urens stimulosa*)—see Jatropha.
Spurge Olive-tree (*Daphne mezereum*)—see Daphne.
Spurious Iris (*Iris spuria*)—see Iris.
Square-stalked Passion-flower (*Passiflora quadrangularis*)—see Passiflora.
Squill (*Scilla bifolia*)—see Scilla.
Squirrel-corn (*Dicentra canadensis*)—see Dicentra.
Squirrel-tail Grass (*Hordeum jubatum*)—see Hordeum.
Squirting Cucumber (*Momordica elaterium*)—see Momordica.
Staff-tree (*Celastrus scandens*)—see Celastrus.
Staff-vine (*Celastrus scandens*)—see Celastrus.
Stag's-horn Fern (*Platycerium alcicorne*)—see Platycerium.
Stag's-horn Saxifrage (*Saxifraga ceratophylla*)—see Saxifraga.
Stag's-horn Sumach (*Rhus typhina*)—see Rhus.
Standing Cypress (*Ipomopsis elegans*)—see Ipomopsis.

Stanhopea.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Tropical America. *Int.* 1824. *Ht.* 1 to 2 ft. *Species* cultivated, about 36; varieties many. *Flowers*, yellow, red, white, crimson, brown, purple, orange; sum. *Compost*, two parts fresh sphagnum moss, one part lumps of turfy peat & charcoal. *Position*, teak baskets suspended from roof. *Plant*, Feb., Mar. or Ap. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; keep almost dry remainder of year. *Syringe* foliage daily, sum. *Shade* from sun. *Temp.*, May to Sept., 70° to 85°; Sept. to May, 60° to 70°. *Propagate* by division of pseudo-bulbs in spring.

Stapelia (Carrion Flower, Toad Flower, Star-fish Flower).—*Ord.* Asclepiadaceæ. Greenhouse evergreen succulent-stemmed plants. *Nat.* S. Africa. *Int.* 1790. *Ht.* 2 in. to 1 ft. *Species* cultivated, about 100. *Flowers*. purple, brown, yellow, red, flesh, violet, green; disagreeably scented; sum, *Compost*, two parts sandy loam, one part broken rubbish or old mortar, & one part sand. *Position*, well drained pots close to glass in light sunny greenhouse. *No* shade required. *Pot*, Mar. or Ap. *Water* moderately, Ap. to Oct.; keep nearly dry remainder of year. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 75°. *Repot* only when absolutely necessary. *Top-dress* annually in Mar. with compost of two parts well decayed cow dung & one part sandy loam. *Propagate* by cuttings of stems exposed to air on shelf in greenhouse for 2 or 3 days, then inserted singly in 2-in. pots half filled with drainage, remainder with sand & brick rubbish; spring.

Staphylea (Bladder Nut, St. Anthony's Nut, Colchican Bladder Nut, Mexican Bladder Nut).—*Ord.* Sapindaceæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, N. America, Caucasus, Japan. *Int.* 1640. *Ht.* 3 to 12 ft. *Species* cultivated, 5. *Flowers*, white; May to Aug. *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune* straggling shoots moderately close immediately after flowering. CULTURE OF S. COLCHICA FOR FORCING: *Compost*, two parts sandy loam, one part leaf-mould. *Pot*, Oct. to Jan. *Place* in sheltered position outdoors, or in cold frame until Jan., then remove into forcing house, or end of Jan. into cold greenhouse. *Temp.*, 65° to 75°. *Water* moderately when first placed in heat, afterwards more freely. *Syringe* daily until leaves expand. *Transfer* to cold frame after flowering. *Harden* & stand outdoors, May to Oct. *Propagate* by seeds sown in sandy soil in sheltered position outdoors in Sept. or Oct.; cuttings of firm shoots, 6 to 8 in. long, inserted in sandy soil in cold frame or in sheltered corner outdoors in Sept.; layering shoots, Sept. or Oct.; suckers removed & planted, Oct. to Feb.

Star Anise (*Illicium anisatum*)—see Illicium.

Star Aniseed-tree (*Illicium anisatum*)—see Illicium.

Starch Hyacinth (*Muscari racemosum*)—see Muscari.

Star Capsicum Nightshade (*Solanum capsicastrum*)—see Solanum

Star-fish-flower (*Stapelia asterias*)—see Stapelia.

Star-flower (*Trientalis europæa*)—see Trientalis.

Star-flowered Squill (*Scilla amœna*)—see Scilla.

Star Glory (*Ipomæa coccinea*)—see Ipomæa.

Star Grass (*Hypoxis erecta*)—see Hypoxis.

Star Hyacinth (*Scilla amœna*)—see Scilla.

Star Pine (*Pinus pinaster*)—see Pinus.

Star Windflower (*Anemone stellata*)—see Anemone.

Star-wort (*Aster amellus*)—see Aster.

Starry-flowered Hydrangea (*Hydrangea stellata*)—see Hydrangea.

Starry Pincushion-flower (*Asterocephalus stellatus*)—see Asterocephalus.

Starry Saxifrage (*Saxifraga stellaris*)—see Saxifraga.

Statice (Sea Lavender, Sea Pink).—*Ord.* Plumbaginaceæ. Greenhouse evergreens & half hardy & hardy herbaceous perennials. *Nat.* Europe (Britain), N. Africa, Canary Islands, Siberia, Levant, Cape of Good Hope, Carolina, Turkestan, China. *Int.* 1688. *Ht.* 6 in. to 2 ft. *Species* cultivated, 9 greenhouse evergreens; 30 half-hardy herbaceous; 40 hardy herbaceous; 2 hardy annuals. *Flowers*, blue, purple, yellow, pink, white, violet; Ap. to Sept. CULTURE OF GREENHOUSE SPECIES (*S. incana*, *S. profusa*, etc.): *Compost*, two parts sandy fibrous loam, one part fibrous peat, & one part sand. *Pot*, Mar. or Ap. *Position*, light airy sunny greenhouse, Sept. to May; cold frame, May to Sept. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants occasionally in sum. to healthy established plants. *Temp.*, Sept. to Ap., 40° to 50°; Ap. to May, 55° to 65°. *Good* drainage in pots indispensable. CULTURE OF HARDY SPECIES (*S. latifolia*, *S. limonium*, etc.): *Soil*, sandy loam. *Position*, sunny rockeries or borders. *Plant*, Mar. or Ap. *Top-dress* annually with decayed manure & loam in. Ap. CULTURE OF ANNUAL SPECIES (*S. Suworwi*, *S. spicata*): *Soil*, ordinary sandy. *Position*, sunny borders or rockeries. *Sow* seeds in well drained pots filled with sandy loam, cover slightly with fine soil, & place in temp. of 55° to 65°, Feb. or Mar. *Transplant* when large enough to handle; harden off & plant outdoors in May. *Propagate* by seeds sown as above; cuttings inserted singly in 2-in. pots, well drained, & filled with sandy soil, & placed in temp. 55° to 65° in spring; division of roots, Mar. or Ap.

Stauntonia.—*Ord.* Berberidaceæ. Hardy evergreen climbing shrub. *Nat.* China, Japan. *Int.* 1876. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, white; fragrant; Ap. *Soil*, deep sandy loam. *Position*, S. wall or trellis. *Plant*, Sept., Oct., Mar. or Ap. *Prune* trailing shoots, not required to produce flowers following season, back to two-thirds of their length in autn. *Propagate* by cuttings of firm young shoots inserted in sandy soil under bell-glass in shady position outdoors in sum.

Steep Grass (*Pinguicula vulgaris*)—see Pinguicula.

Steeple Bells (*Campanula pyramidalis*)—see Campanula.

Stellaria (Golden Chickweed, Golden Stitchwort).—*Ord.* Caryophyllaceæ. Hardy perennial. Orn. foliage. *Nat.* Europe (Britain), Siberia, W.

Asia. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Leaves*, narrow; pale golden yellow. *Soil*, ordinary. *Position*, edgings to or lines in carpet beds. *Plant*, Ap. to June. *Remove* flower stems directly they form to insure dwarf growth. *Propagate* by division of roots in spring.

Stemless Lady's Slipper (*Cypripedium acaule*)—see Cypripedium.

Stephanotis (Clustered Wax-flower, Madagascar Chaplet Flower, Madagascar Jasmine).—*Ord.* Asclepiadaceæ. Stove evergreen twining shrubs. *Nat.* Madagascar. *Int.* 1839. *Ht.* 10 to 15 ft. *Species* cultivated, 2. *Flowers*, white; fragrant; more or less all the year round. *Compost*, equal parts good light fibrous loam or peat, & one part equal proportions leaf-mould, well decayed manure, & coarse silver sand. *Position*, pots, tubs, or beds, well drained, with shoots trained to wire trellis, or up rafters of stove. *Pot* or plant, Feb. or Mar. *Shade* from sun. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Oct., except when in bloom. *Apply* stimulants once a week to healthy established plants between May & Sept. *Prune* straggling shoots in moderately close, & thin out weak shoots freely, Jan. or Feb. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar, 55° to 65°. *Propagate* by cuttings of the shoots of the previous year's growth, inserted singly in 2-in. pots, filled with equal parts sand, peat, & loam, placed under bell-glass in temp. 65° to 75° in spring.

Sterculia (Sultan's Parasol).—*Ord.* Sterculiaceæ. Stove and Greenhouse evergreen trees. *Nat.* Malabar, W. Australia, S. America, E. Indies, New Guinea. *Int.* 1787. *Ht.* 10 to 30 ft. *Species* cultivated, 6 stove; 4 greenhouse. *Flowers*, purple, yellow, red; sum. *Compost*, equal parts loam, peat, & sand. *Position*, pots in warm moist stove or greenhouse. *Pot*, Feb. or Mar. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65° for stove species; Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55° for greenhouse species. *Water* freely in sum.; moderately other times. *Syringe* stove species daily, Ap. to Oct. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. of 65° to 75°, spring or sum.

Sternbergia (Winter Daffodil, Yellow Star-flower).—*Ord.* Amaryllidaceæ. *Nat.* Central Europe. *Int.* 1596. *Ht.* 2 to 6 in. *Species* cultivated, 2; varieties several. *Flowers*, yellow; autn. *Leaves* produced usually late in autn. or early in spring, after flowering. *Soil*, deep, fairly dry, good ordinary. *Position*, sunny sheltered border. *Plant* bulbs, Oct. or Nov., 4 in. deep, & 2 or 3 in. apart. Plant surface of soil over bulbs with *Saxifraga hypnoides* or *Sedum acre* to form green carpet & afford protection. *Lift* & replant when bulbs show signs of deterioration. *Propagate* by offsets removed & planted, Oct. or Nov.

Stevensonia.—*Ord.* Palmaceæ. Stove orn. foliage palm. *Nat.* Seychelles. *Int.* 1865. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Leaves*, once divided, wedge-shaped, green. *Compost*, two parts fibrous peat, one part equal proportions charcoal, turfy loam, & sand. *Position*, moist shady part of stove. *Pot*, Feb. or Mar. *Syringe* freely twice daily, Feb. to Oct.; once daily afterwards. *Water* freely at all times. *Shade* & moist atmosphere essential. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 65° to 75°. *Propagate* by seeds sown 1 in. deep in peat & loam in small pots in temp. 75° to 85°, spring.

Stiff Dogwood (*Cornus stricta*)—see Cornus.

Stigmaphyllon (Golden Vine).—*Ord.* Malpighiaceæ. Stove evergreen climbing shrubs. *Nat.* Tropical America. *Int.* 1796. *Ht.* 3 to 20 ft. *Species* cultivated, about 7. *Flowers*, yellow; May to Sept. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots with shoots trained up roof or round trellis. *Pot*, Feb. or Mar. *Prune* away weak growths & shorten strong ones moderately, Jan. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of firm shoots inserted singly in small pots of sandy soil under bell-glass in temp. 65° to 75°, spring or sum.

Stinging Bush (*Jatropha urens*)—see Jatropha.

Stingless Nettle (*Pilea muscosa*)—see Pilea.

Stinking Gladwyn (*Iris fœtidissima*)—see Iris.

Stipa (Feather Grass). — *Ord.* Graminaceæ. Hardy perennial flowering grasses. *Nat.* Europe, Australia. *Int.* date unknown. *Ht.* 2 to 3 in. *Species* cultivated, about 6. *Inflorescence* borne in feathery panicles; sum. *Soil*, ordinary. *Position*, dryish sunny borders. *Plant*, Mar. or Ap. *Gather* inflorescence for drying for winter decoration in July *Propagate* by seeds sown ⅛ in. deep in shallow boxes or pots filled with light soil placed in temp. of 55° to 65°, Feb. or Mar., hardening off seedlings & planting outdoors, May or June; or by sowing similar depth in ordinary soil in sunny position outdoors in Ap.; also by division of roots in Mar. or Ap.

Stock Gilliflower (*Matthiola annua, M. incana, & M. græca*)—see Matthiola.

Stock-leaved Hound's-tongue (*Cynoglossum cheirifolium*)—see Cynoglossum.

Stokes' Aster (*Stokesia cyanea*)—see Stokesia.

Stokesia (Stoke's Aster).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1766. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, blue; Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Ap. *Protect* in winter by covering with hand-light. Plants may be lifted in Sept., placed in pots & removed to greenhouse for flowering during autn. & winter, afterwards planting outdoors following Ap. *Propagate* by division of roots, Mar. or Ap.

Stonecrop (*Sedum acre*)—see Sedum.

Stone Fern (*Ceterach officinarum*)—see Ceterach.

Stone-hore (*Sedum reflexum*)—see Sedum.

Stone Orpine (*Sedum reflexum*)—see Sedum.

Stone Pine (*Pinus pinea*)—see Pinus.

Stone-root (*Collinsonia canadensis*)—see Collinsonia.

Storax-plant (*Styrax officinalis*)—see Styrax.

Straggling Phlox (*Phlox divaricata*)—see Phlox.

Straight Bean (*Vicia faba*)—see Vicia.

Strainer Vine (*Luffa acutangula*)—see Luffa.

Strasburg Turpentine-tree (*Abies pectinata*)—see Abies.

Stratiotes (Water Soldier, Crab's Claw).—*Ord.* Hydrocharidaceæ. Hardy aquatic perennial. *Nat.* Britain. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white; June. *Soil*, ordinary. *Position*, shallow lakes or ponds. *Plant*, Mar. or Ap.; enclosing roots & small quantity of mould in pieces of old sacking tied securely round base of stem & dropped into water where required to grow. *Propagate* by division in spring.

Strawberry-plant (*Fragaria vesca*)—see Fragaria.

Strawberry Tomato-plant (*Physalis Alkekengi*)—see Physalis.

Strawberry-tree (*Arbutus unedo*)—see Arbutus.

Streaked-barked Daphne (*Daphne striata*)—see Daphne.

Streaked-barked Plane-tree (*Platanus striata*)—see Platanus.

Strelitzia (Bird of Paradise Flower, Bird's Tongue Flower).—*Ord.* Scitaminaceæ. Greenhouse orn. foliage & flowering perennials. *Nat.* S. Africa. *Int.* 1791. *Ht.* 5 to 10 ft. *Species* cultivated, 5. *Flowers*, white, purple, yellow, orange; spring. *Leaves*, large, broad, oblong, milky-green. *Compost*, two parts loam, one part peat, & half a part silver sand. *Position*, pots or beds in sunny part of stove. *Pot* or plant, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately, Sept. to Nov.; keep nearly dry afterwards. *No* shade required. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. *Propagate* by seeds sown in compost of leaf-mould, peat, & loam, in temp. of 65° to 75°, spring; offsets or division of old plants, Feb. or Mar.

Streptocarpus (Cape Primrose).—*Ord* Gesneriaceæ. Greenhouse & stove herbaceous perennials. *Nat.* S. & Tropical Africa, Madagascar. *Int.* 1824. *Ht.* 6 to 12 in. *Species* cultivated, about 10 greenhouse, 1 stove; hybrids several. *Flowers*, lilac, rose, blue, white; Ap. to Nov. Culture of Stove Species (*S. Saundersi*): *Compost*, two parts loam, one part of equal proportions of leaf-mould or peat, decayed manure, & silver sand. *Position*, pots in light part of stove. *Pot*, Mar. or Ap. *Shade* from sun. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* stimulants once a week to plants in flower. *Temp.*, 55° to 65°, Sept. to Ap.; 65° to 75°, Ap. to Sept. Culture of Greenhouse Species (*S. Rexi*, *S. Wendlandi*, etc.): *Compost*, same as for stove species. *Position*, pots in light greenhouse. *Pot*, Mar. or Ap. *Temp.*, 40° to 50°. Oct. to Ap.; 55° to 65°, Ap. to Oct. *Shade* from sun. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *Apply* weak stimulants when plants are in flower. *Admit* air freely in sum. *Cold* shady frame good position for young plants during sum. *Propagate* by seeds sown in well drained pots, pans, or boxes, with equal parts of finely sifted loam, leaf-mould, peat, & sand. *Cover* the seeds thinly with a sprinkle of fine silver sand. *Moisten* the soil by holding the pot, pan, or box nearly to its rim or edge in tepid water. *Place* a pane of glass over top of pot, pan, or box, & put in a temp. 55° to 65°. *Transplant* seedlings as soon as large enough to handle 1 in. apart in above compost, in pans or pots, & when seedlings touch each other place them singly in 3-in. pots, & ultimately into 5 or 6-in. pots. *Seeds* sown in Feb. will produce plants for flowering following July; in Mar. or Ap., following Aug. or Sept.

Streptosolen.—*Ord.* Solanaceæ. Greenhouse evergreen flowering shrub. *Nat.* Columbia. *Int.* 1847. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, orange; May to Aug. *Compost*, two parts sandy loam, one part leaf-mould, & half a part silver sand. *Position*, well drained pots close to glass in light sunny greenhouse. *Pot*, Feb. to Ap. *Prune* shoots moderately close after flowering. *Water* freely, Ap. to Oct.; moderately afterwards, *Apply* weak stimulants occasionally during sum. *Shade* only from bright sunshine. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 50° to 60°. *Propagate* by cuttings inserted in light sandy soil under bell-glass, in temp. 55° to 65°, spring or sum.

String-wood (*Acalypha rubra*)—see Acalypha.

Striped Bamboo (*Bambusa striata*)—see Bambusa.

Striped-barked Flowering Ash (*Fraxinus ornus striata*)—see Fraxinus.

Striped-flowered Squill (*Puschkinia scilloides*)—see Puschkinia.

Striped Hedgehog Holly (*Ilex aquifolium ferox argenteo-variegata*)—see Ilex.

Strobilanthes (Conehead).—*Ord* Acanthaceæ. Stove evergreen flowering shrubs. *Nat.* Nepaul, E. Indies, China. *Int.* 1823. *Ht.* 1 to 4 ft. *Species* cultivated, 14. *Flowers*, blue, violet, purple, lilac, lavender, yellow; Nov. to Ap. *Compost*, equal parts loam & leaf mould, with a little silver sand. *Pot*, Mar. or Ap. *Position*, well drained pots in moist part of stove, Mar. to June; sunny cold frame, June to Sept.; light stove, Sept. to Mar. *Prune* shoots in closely, Feb. *Water* moderately, Sept. to Ap.; freely other times. *Apply* liquid manure twice a week to plants in flower. *Propagate* by cuttings of moderately firm shoots, 2 to 3 in. long, inserted in light sandy compost under bell-glass in temp. 75°, Feb., Mar. or Ap.

Struthiopteris (Ostrich Fern).—*Ord.* Filices. Hardy deciduous ferns. *Nat.* Europe, Japan, N. America. *Int.* 1760. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Fronds*, feather-shaped; fertile ones contracted. *Soil*, two parts good loam, one part leaf-mould. *Position*, semi-shaded cool moist border or margin of ponds. *Propagate* by spores gathered just before the cases burst & sown on surface of well drained pan of sandy peat & leaf-mould with a square of glass, & kept moderately moist in shady position in cold frame or greenhouse; division of plants, Mar. or Ap.

Stuartia.—*Ord.* Ternströmiaceæ. Hardy deciduous flowering shrubs. *Nat.* N. America, Japan. *Int.* 1743. *Ht.* 8 to 12 ft. *Species* cultivated, 3. *Flowers*, creamy white, with crimson-red stamens; Ap. to July. *Soil*, two parts moist sandy loam, one part peat. *Position*, open sunny borders sheltered on N. & E. by walls, trees, or shrubs. *Plant*, Oct. to Feb. *Propagate* by cuttings of firm shoots inserted in sandy soil under hand-light in sheltered position outdoors in autn.; layering shoots in Sept. or Oct.

Stud-flower (*Helonias bullata*)—see Helonias.

Sturt's Desert Pea (*Clianthus Dampieri*)—see Clianthus.

Stylophorum (Celandine Poppy).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1854. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; May & June. *Soil*, ordinary light. *Position*, sunny beds or borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap.; division of roots, Mar.

Styrax (Storax).—*Ord.* Styracaceæ. Hardy deciduous flowering shrubs. *Nat.* Levant, India, Japan, N. America. *Int.* 1597. *Ht.* 1 to 10 ft. *Species* cultivated, about 6. *Flowers*, white; Ap. to Aug. *Soil*, light ordinary. *Position*, sunny borders or shrubberies, or against S. walls. *Plant*, Oct. to Feb. *Propagate* by layering shoots in spring or autn.

Succory (*Cichorium intybus*)—see Cichorium.

Sugar Bean (*Phaseolus saccharatus* & *P. lunatus*)—see Phaseolus.

Sugar Cane (*Saccharum officinarum*)—see Saccharum.

Sugar Maple (*Acer saccharinum*)—see Acer.

Sugar Millet (*Sorghum saccharatum*)—see Sorghum.

Sugar Pea: Edible-podded varieties of Common Pea (*Pisum sativum*)—see Pisum.

Sugar Pine (*Pinus Lambertiana*)—see Pinus.

Sulphur-coloured Windflower (*Anemone sulphurea*)—see Anemone

Sulphur-flowered Rose (*Rosa sulphurea*)—see Rosa.

Sulphur-flowered Sword-lily (*Gladiolus ochroleucus*) — see Gladiolus.

Sultan's Parasol (*Sterculia platanifolia*) - see Sterculia.

Summer Heliotrope (*Tournefortia heliotropioides*)—see Tournefortia.

Summer Pheasant's-eye (*Adonis æstivalis*)—see Adonis.

Summer Savory (*Satureia hortensis*) - see Satureia.

Summer Snowdrop (*Leucojum æstivum*)—see Leucojum.

Summer Snow-flake (*Leucojum æstivum*)—see Leucojum.

Summer Squash (*Cucurbita pepo*)—see Cucurbita.

Sundew (*Drosera rotundifolia*)—see Drosera.

Sun-drops (*Œnothera fruticosa*)—see Œnothera.

Sunflower (*Helianthus annuus*)—see Helianthus.

Sunflower Oil-plant (*Helianthus annuus*)—see Helianthus.

Sun-plant (*Portulacca grandiflora*)—see Portulacca.

Sun-rose (*Helianthemum vulgare*)—see Helianthemum.

Superb Yucca (*Yucca superba*)—see Yucca.

Surinam Tea-plant (*Lantana hybrida*)—see Lantana.

Sutherlandia (Cape Bladder Senna).—*Ord.* Leguminosæ. Half-hardy evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1683. *Ht.* 2 to 3 ft. *Species* cultivated, 1; variety 1. *Flowers*, scarlet; June. *Compost*, equal parts loam, peat, & silver sand. *Position*, against S. walls outdoors, S. & S.W. England only, or in pots in cold greenhouse any part of kingdom. *Plant*, Sept., Oct. or Ap. *Pot*, Mar. *Water* plants in pots freely, Ap. to Sept.; moderately afterwards. *Prune*, Ap., shortening straggling shoots only. *Propagate* by seeds sown in compost of equal parts peat, loam, leaf-mould, & sand, lightly cover with fine soil, & place in temp. of 45° to 55° in spring; by cuttings of young shoots in May under bell-glass or hand-light.

Swainsonia (Darling River Pea, Poison Pea).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* New Zealand, Australia. *Int.* 1800. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, blue, purple, pink, violet, red, white; May to Sept. *Compost*, two parts fibrous loam, one part peat, & half a part silver sand. *Position*, well drained pots in light sunny greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally in sum. *Remove* to cold frame or pit, June; replace in greenhouse, Sept. *Temp.*, Sept. to Mar., 35° to 45°; Mar. to June, 55° to 65°. *Propagate* by seeds soaked for about an hour in tepid water, then sown ⅛ in. deep in light soil in temp. 55° to 65°, Mar. or Ap.; cuttings of young shoots, 2 to 3 in. long, inserted in silver sand under bell-glass in cool shady part of greenhouse in sum.

Swainson's Pea (*Swainsonia galigifolia*)—see Swainsonia.

Swallow-tailed Willow (*Salix alba*)—see Salix.

Swallow-wort (*Chelidonium majus & Asclepias tuberosa*)—see Chelidonium & Asclepias.

Swamp Devil's Bit (*Ptelea trifoliata*)—see Ptelea.

Swamp Globe-flower (*Cephalanthus occidentalis*)—see Cephalanthus.

Swamp Gooseberry (*Ribes lacustre*)—see Ribes.

Swamp Hellebore (*Veratrum viride*)—see Veratrum.

Swamp Lily (*Lilium superbum*)—see Lilium.

Swamp Locust-tree (*Gleditschia monosperma*)—see Gleditschia.

Swamp Maple (*Acer rubrum*)—see Acer.

Swamp Sassafras-tree (*Magnolia glauca*)—see Magnolia.

Swamp Saxifrage (*Saxifraga pennsylvanica*)—see Saxifraga.

Swamp Sunflower (*Helenium autumnale*)—see Helenium.

Swan-flower (*Cycnoches ventricosum*)—see Cycnoches.

Swan-neck Orchid (*Cycnoches aureum*)—see Cycnoches.

Swan River Daisy (*Brachycome iberidifolia*)—see Brachycome.

Swan River Everlasting (*Rhodanthe Manglesi*)—see Rhodanthe.

Swan-wort (*Cycnoches ventricosum*)—see Cycnoches.

Sweet Acorn Oak (*Quercus ballota*)—see Quercus.

Sweet Alyssum (*Kœniga maritima*)—see Kœniga.

Sweet Alysson (*Kœniga maritimum*)—see Kœniga.

Sweet Amber (*Hypericum androsœnum*)—see Hypericum.

Sweet Basil (*Ocymum basilicum*)—see Ocymum.

Sweet Bay-tree (*Laurus nobilis*)—see Laurus.

Sweet Briar (*Rosa rubiginosa & R. Eglanteria*)—see Rosa.

Sweet Buck-eye (*Pavia flava*)—see Pavia.

Sweet Chestnut (*Castanea vesca*)—see Castanea.

Sweet Cicely (*Myrrhis odorata*)—see Myrrhis.

Sweet Cumin (*Pimpinella anisum*)—see Pimpinella.

Sweet Fern (*Myrrhis odorata*)—see Myrrhis.

Sweet Fennel (*Fœniculum officinale*)—see Fœniculum.

Sweet Flag (*Acorus calamus*)—see Acorus.

Sweet Gale (*Myrica Gale*)—see Myrica.

Sweet Grass (*Asperula odorata*)—see Asperula.

Sweet Gum-tree (*Liquidambar styraciflua*)—see Liquidambar.

Sweet John (*Dianthus barbatus angustifolius*)—see Dianthus

Sweet Marjoram (*Origanum marjorana*)—see Origanum.

Sweet Marjoram Oil-plant (*Origanum marjorana*)—see Origanum.

Sweet Milfoil (*Achillea ageratum*)—see Achillea.

Sweet Nancy (*Narcissus biflorus fl. pl.*)—see Narcissus.

Sweet Oil-plant (*Olea europæa*)—see Olea.

Sweet Orange-tree (*Citrus aurantium*)—see Citrus.

Sweet Pea (*Lathyrus odoratus*)—see Lathyrus.

Sweet Pepper-bush (*Clethra alnifolia*)—see Clethra.

Sweet Potato (*Batatas edulis*)—see Batatas.

Sweet Reed (*Sorghum saccharatum*)—see Sorghum.

Sweet Scabious (*Scabiosa atropurpurea*)—see Scabiosa.

Sweet-scented Agrimony (*Agrimonia odorata*)—see Agrimonia.

Sweet-scented Bramble (*Rubus odoratus*)—see Rubus.

Sweet-scented Clematis (*Clematis flammula*)—see Clematis.

Sweet-scented Crab (*Pyrus coronaria*)—see Pyrus.

Sweet-scented Daphne (*Daphne odora*)—see Daphne.

Sweet-scented Everlasting (*Gnaphalium polycephalum*) — see Gnaphalium.

Sweet-scented Hedge Mustard (*Erysimum odoratum*)—see Erysimum.

Sweet-scented Hellebore (*Helleborus odorus*)—see Helleborus.

Sweet-scented Lavender (*Lavandula dentata*)—see Lavandula.

Sweet-scented Mad-wort (*Kœniga maritimum*)—see Kœniga.

Sweet-scented Melon (*Cucumis Dudaim*)—see Cucumis.

Sweet-scented Mexican Marigold (*Tagetes lucida*)—see Tagetes.

Sweet-scented Oleander (*Nerium odorum*)—see Nerium.

Sweet-scented Olive-tree (*Olea fragrans*)—see Olea.

Sweet-scented Ox-eye (*Bupthalmum aquaticum*)—see Bupthalmum.

Sweet-scented Pink (*Dianthus fragrans, D. pungens, & D. suavis*)—see Dianthus.

Sweet-scented Plantain Lily (*Funkia grandiflora*)—see Funkia.

Sweet-scented Tulip (*Tulipa fragrans*)—see Tulipa.

Sweet-scented Violet (*Viola odorata*)—see Viola.

Sweet-scented Virgin's Bower (*Clematis flammula*) — see Clematis.

Sweet-scented Water Lily (*Nymphæa odorata*)—see Nymphæa.

Sweet Sedge (*Acorus calamus*)—see Acorus.

Sweet-sop (*Anona squamosa*)—see Anona.

Sweet Sultan (*Centaurea moschata & C. suaveolens*)—see Centaurea.

Sweet White Violet (*Viola blanda*)—see Viola.

Sweet William (*Dianthus barbatus*)—see Dianthus.

Sweet Willow (*Salix pentandra & Myrica gale*)—see Salix & Myrica.

Sweet Woodruff (*Asperula odorata*)—see Asperula.

Sweetest Honeysuckle (*Lonicera odoratissima*)—see Lonicera.

Swertia (Marsh Fel-wort).—*Ord.* Gentianaceæ. Hardy annual, biennial, & perennial herbs. *Nat.* Europe, India, N. America, Siberia. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 7 annuals; 1 biennial; 1 perennial. *Flowers*, yellow, purple, white, blue, green; sum. CULTURE OF ANNUAL SPECIES (*S. corymbosa*, etc.): *Soil*, moist peaty. *Position*, bogs, marshy places or margins of ponds. *Sow* seeds where required to grow in Ap., & thin when 2 in. high to 6 or 8 in. apart. CULTURE OF BIENNIAL SPECIES (*S. Michauxiana*). *Soil*, peaty. *Position*, moist borders or bogs. *Plant*, Mar. or Ap. CULTURE OF PERENNIAL SPECIES (*S. perennis*): *Soil*, equal parts peat & leaf-mould. *Position*, moist rockeries or damp places. *Plant*, Mar. or Ap. *Water* copiously in dry weather. *Propagate* biennials by seeds sown in well drained pan filled with moist peat, placed in shady cold frame, Mar. or Ap., transplanting seedlings outdoors in June; perennials by seeds similarly to biennials, & division of roots in Mar.

Swiss Genipi (*Achillea moschata*)—see Achillea.

Swiss Stone Pine (*Pinus cembra*)—see Pinus.

Sword Grass (*Gladiolus communis, Phalaris arundinaceæ*)—see Gladiolus & Phalaris.

Sycamore-tree (*Acer pseudo-platanus*)—see Acer.

Sycomore-tree (*Ficus Sycomorus*)—see Ficus.

Symphoricarpus (Snow-berry Tree, St. Peter's-wort, Wolf-berry, Coral-berry, Indian Currant).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs. Flowering & berry-bearing. *Nat.* N. America, Mexico. *Int.* 1730. *Ht.* 4 to 8 ft. *Species* cultivated, 4; varieties 2 (one variegated). *Flowers*, white, rose, red; July to Sept.; much sought after by bees. *Berries*, white, red; autn. *Soil*, ordinary. *Position*, sunny or shady borders, copses or woodlands. *Plant*, Oct. to Feb. *Prune*, Oct. to Feb., simply thinning out old or decayed wood. *Propagate* by cuttings, 6 to 8 in long, of firm wood inserted in ordinary soil in shady position outdoors, Oct. to Feb.; suckers removed & planted, Oct. to Feb.

Symphyandra (Pendulous Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Orient. *Int.* 1823. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, blue, white; sum. *Soil*, ordinary rich. *Position*, sunny well drained borders or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in ordinary light sandy soil outdoors, Ap. to May; cuttings of young shoots inserted in sandy soil in cold frame, Mar. or Ap.; division of roots, Mar.

Symphytum (Comfrey, Alum, Black-root, Knit-back).—*Ord.* Boraginaceæ. Hardy tuberous rooted & herbaceous perennials. *Nat.* Europe (Britain). *Int.* (foreign species), 1799. *Ht.* 2 to 6 ft. *Species* cultivated, about 11; varieties several. *Flowers*, white, crimson, red, blue; May to Aug. *Leaves*, large, green, or margined with yellow. *Soil*, ordinary. *Position*, sunny or shady moist borders or margins of water courses or streams. *Plant*, Oct., Nov., Mar. or Ap. *Lift*, divide, or replant every 3 or 4 years. *Propagate* by division of roots in spring.

Symplocarpus (Meadow Cabbage, Skunk Cabbage).—Aroidaceæ. Hardy aquatic perennial. *Nat.* N. America, N.E. Asia, Japan. *Int.* date unknown. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers* (spathe), spotted & striped with purple & yellowish green; May. *Soil*, peat. *Position*, moist semi-shady border, neat margins of stream or pond. *Plant*, Mar. or Ap. *Propagate* by division of root stocks, Mar. or Ap.

Syrian Silk-plant (*Periploca græca*)—see Periploca.

Syringa (*Philadelphus coronarius*)—see Philadelphus.

Syringa (Lilac, Pipe Privet, Pipe-tree).—*Ord.* Oleaceæ. Hardy deciduous flowering shrubs. *Nat.* E. Europe, Temperate Asia. *Int.* 1597. *Ht.* 4 to 10 ft. *Species* cultivated, about 9; varieties several. *Flowers*, white, violet, purple, rose, red; May or June. *Soil*, ordinary good. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune*, moderately after flowering (June), removing or shortening shoots that have flowered only. *Apply* house slops or liquid manure in sum. to plants growing in poor soils. Pot Culture for Forcing: *Compost*, two parts good sandy loam, one part leaf-mould, & little sand. *Pot*, Oct. or Nov. *Place* plants after potting in sheltered corner outdoors, protecting pots from frost with litter until required for forcing. *Transfer* to temp. of 55°, Nov. to Feb. *Syringe* daily. *Water* moderately. *Directly* buds burst place in temp. of 60° to 65°, when expanded replace in temp. of 55°. *Prune* shoots that have flowered to within 2 in. of base directly after blooming. *Keep* plants in heat until May, then gradually harden & plant outdoors. *Plants* must not be forced two years in succession. *Lilacs* may be grown in cold greenhouse for flowering in Ap. & May. *Place* in greenhouse in Nov. *Propagate* by seeds sown in sunny position outdoors in autn. or spring; suckers removed & planted from Oct. to Feb.; layering shoots in Sept.; choice varieties by budding on common species in July, or by grafting on common species on the ash in Mar. or Ap.

Tabebuia. – *Ord.* Bignoniaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical America. *Int.* 1759. *Ht.* 15 to 20 ft. *Species* cultivated, 5. *Flowers*, orange, yellow, white; sum. *Compost*, two parts loam, one part peat & silver sand. *Position*, large well drained pots, or beds 3 ft. square, 18 in. deep for one plant, in light sunny greenhouse; shoots trained up roof. *Pot* or plant, Feb. or Mar. *Good* drainage absolutely necessary. *Prune* away ⅓ strong shoots, ⅔ weak shoots in Feb. *Water* copiously, Ap. to Oct.; keep nearly dry, Oct. to Ap. *Apply* weak stimulants occasionally to healthy established plants in sum. *No* shade required at any time. *Admit* air freely during sum. & early autn. to thoroughly ripen wood for insuring abundance of flowers. *Temp.*, Ap. to Oct., 55° to 65°. Oct. to Ap., 40° to 50°. *Propagate* by cuttings of firm young shoots, 3 in. long, inserted in well drained pots of sandy soil, placed under bell-glass, in temp. of 55° to 65° in sum.; cuttings of roots, 1 to 2 in. long, planted 1 in. deep in sandy soil in temp. of 55° to 65°, spring; layering shoots in Mar., Ap., Sept. or Oct.

Tabernæmontana (Adam's Apple, East Indian Rose Bay).—*Ord.* Apocynaceæ. Stove evergreen flowering shrubs. *Nat.* E. & W. Indies, Mauritius, Sierra Leone, Ceylon, Peru. *Int.* 1770. *Ht.* 4 to 12 ft. *Species* cultivated, about 10. *Flowers*, white, yellow; fragrant; May to Oct. *Compost*, two parts sandy loam, one part fibry peat, half a part silver sand. *Position*, well drained pots in light stove. *Pot*, Feb. to Ap. *Prune* straggling shoots moderately close immediately after flowering. *Water* freely, Mar. to Oct.; moderataly afterwards. *Syringe* daily, Mar., & until flowers appear. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by cuttings of ripe shoots, 2 to 3 in. long, inserted in small pots filled with sand under bell-glass in temp. 65° to 75° in Feb.

Table Mountain Orchid (*Disa grandiflora*)—see Disa.

Table Mountain Pine-tree (*Pinus pungens*)—see Pinus.

Table-shaped Houseleek (*Sempervivum tabulæforme*)—see Sempervivum.

Tacsonia (Blood-red Passion-flower, Van Volxem's Passion-flower).—*Ord.* Passifloraceæ. Greenhouse evergreen flowering climbers. *Nat.* Peru, New Grenada, Quito, Tolima. *Int.* 1828. *Ht.* 30 ft. *Species* cultivated, about 7; hybrids & varieties several. *Flowers*, crimson, violet, pink, scarlet, orange; sum. *Compost*, equal parts fibrous loam & peat, one fourth silver sand. *Pot* or plant, Feb. or Mar. *Position*, well drained tubs or pots, or beds 18 in. deep & 2 ft. wide; shoots to be trained up rafters or walls; sunny. *Prune*, Feb., thinning out weak shoots & shortening strong ones one-third. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Ap. to Sept. *Apply* stimulants occasionally to healthy plants when in flower only. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 40° to 50°.

Tag Alder (*Alnus rubra*)—see Alnus.

Tagetes (African Marigold, French Marigold, Striped Mexican Marigold, Sweet-scented Mexican Marigold).—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Mexico, Peru, Chili. *Int.* 1596. *Ht.* 4 in. to 3 ft. *Species* cultivated, about 6; varieties several. *Flowers*, yellow, orange, red, chocolate; sum. *Soil*, ordinary, well enriched with decayed manure. *Position*, sunny borders for African Marigold (*T. erecta*); sunny beds or borders for French Marigold (*T. patula*); edgings to beds or borders for T. signata pumila & T. tenuifolia. *Sow* seeds 1/16 in. deep in light soil in temp. 55° to 65° in Mar., or in unheated greenhouse in Ap. *Transplant* seedlings when three leaves form, 3 in. apart, in light soil in shallow boxes, or in bed of rich soil in cold frames, gradually harden off in May, and plant out in June. *Plant* African marigolds in groups of three or six, or 16 in. apart in rows; French marigolds singly, or in groups in borders, or 12 in. apart in rows; Dwarf Marigolds (*T. signata pumila*) 6 in. apart in rows. African Marigold for exhibition to carry four blooms only. *Thin* shoots to four on each plant, each carrying one bloom. *Water* freely in dry weather. *Apply* stimulants occasionally to plants in flower. *Suitable stimulants*: (1) 1 oz. of Peruvian guano to a gallon of water. (2) ½ oz. sulphate of ammonia to a gallon of water.

Tail-flower (*Anthurium Scherzerianum*)—see Anthurium.

Tall Blue Lobelia (*Lobelia syphilitica*)—see Lobelia.

Tall Garden Phlox (*Phlox paniculata*)—see Phlox.

Tall Guatemala Cypress (*Cupressus excelsa*)—see Cupressus.

Tall Larkspur (*Delphinium exaltatum*)—see Delphinium.

Tall Nasturtium (*Tropæolum majus*)—see Tropæolum.

Tall St. John's-wort (*Hypericum elatum*)—see Hypericum.

Tall Sea-Lavender (*Statice elata*)—see Statice.

Tall Sulphur-flowered Lily (*Lilium colchicum*)—see Lilium.

Tall Torch Lily (*Tritoma grandis*)—see Tritoma.

Tall Upright Juniper (*Juniperus excelsa stricta*)—see Juniperus.

Tall White Evening Primrose (*Œnothera speciosa*)—see Œnothera.

Tallow-shrub (*Myrica cerifera*)—see Myrica.

Tamarack (*Larix americana*)—see Larix.

Tamarindus (Tamarind Tree, Indian Date).—*Ord.* Leguminosæ. Stove evergreen flowering tree. *Nat.* Tropics. *Int.* 1633. *Ht.* 20 to 40 ft. *Species* cultivated, 1. *Flowers*, yellow, striped with red; June to Aug. *Leaves*, feather-shaped. *Compost*, two parts fibrous loam, one part sand. *Position*, large well drained pots or tubs in lofty stove. *Pot* or plant, Feb. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Ap. to Oct., 70° to 85°; Oct. to Ap., 60° to 70°. *Propagate* by seeds steeped for a few hours in tepid water, & then sown ½ in. deep in light soil in temp. 75° to 85° in spring; cuttings of shoots inserted singly in small well drained pots placed under bell-glass in temp. 65° to 75°, Mar. to Aug.

Tamarisk (*Tamarix gallica*)—see Tamarix.

Tamarisk-leaved Juniper (*Juniperus tamariscifolia*)—see Juniperus.

Tamarisk Manna-tree (*Tamarix gallica mannifera*)—see Tamarix.

Tamarix Tamarisk, Manna Plant).—*Ord.* Tamaricaceæ. Greenhouse & hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* Europe (Britain), Caucasus, Levant, Taurea, Arabia, Persia, India, E. Indies. *Ht.* 5 to 20 ft. *Species* cultivated, 3 hardy; 2 greenhouse. *Flowers*, pink, white; sum. *Leaves*, scaly. Culture of Hardy Species (*T. gallica*, *T. parviflora*, & *T. tetrandra*): *Soil*, ordinary or sandy. *Position*, shrubberies or hedges in seaside gardens, S. & S.W. England; sunny banks or sheltered shrubberies in inland gardens south of the Trent. *Plant*, Sept. to Ap. *Prune*, Oct. to Mar., shortening straggling shoots only. Culture of Greenhouse Species (*T. articulata* & *T. dioica*): *Compost*, equal parts peat, loam, & sand. *Position*, well drained pots in light part of warm greenhouse. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 40° to 50°. *Propagate* hardy species by cuttings of shoots, 4 to 6 in. long, inserted in sandy soil in sheltered position under hand-light or in cold frame, Sept. or Oct.; greenhouse species by cuttings of young shoots inserted in pure sand under bell-glass in temp., 55° to 65°, spring or sum.

Tamus (Black Bryony, Lady's Seal, Mandrake, Isle-of-Wight Vine, Murrain Berries, Ox Berry).—*Ord.* Dioscoreaceæ. Hardy tuberous-rooted perennial twiner. *Nat.* Europe (Britain). *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish; May to June. *Fruit*, bright, scarlet berries; poisonous; autn. *Soil*, ordinary. *Position*, sunny; shoots growing over arbours, tree stumps, hedges, or banks. *Plant*, Mar. or Ap. *Propagate* by seed sown $\frac{1}{16}$ in. deep in light soil in sunny position outdoors in Ap., transplanting seedlings when 3 in. high where required to grow; division of roots, Mar. or Ap.

Tanacetum (Tansy, Alecost, Costmary, Buttons).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Orient, Turkestan, India, Nepaul, N. America. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Flowers*, yellow; May to Sept. CULTURE OF TANSY (*T. vulgare*): *Soil*, ordinary. *Position*, sunny. *Plant*, 12 in. apart in rows 18 in. asunder in Mar. or Oct. *Remove* flower stems as they form. *Replant* every 3 or 4 years. *Leaves* aromatic, used for flavouring puddings, etc., and for garnishing. CULTURE OF ORNAMENTAL KIND (*T. vulgare crispum*): *Soil*, ordinary moist. *Position*, sunny borders. *Plant*, Mar. *Lift*, divide, & replant every 2 or 3 years. CULTURE OF COSTMARY (*T. Balsamita*): *Soil*, ordinary dryish. *Position*, sunny. *Plant*, 2 ft. apart each way in Mar. *Leaves* used for salads. *Propagate* by seeds sown outdoors in spring; division of the roots in Oct. or Mar.

Tangerine Orange-tree (*Citrus nobilis minor*)—see Citrus.

Tangier Iris (*Iris Tingitana*)—see Iris.

Tanner's Sumach (*Rhus coriaria*)—see Rhus.

Tansy (*Tanacetum vulgare*)—see Tanacetum.

Tansy-leaved Hawthorn (*Cratægus tanacetifolia*)—see Cratægus.

Tansy-leaved Worm-wood (*Artemisia tanacetifolia*)—see Artemisia.

Tape Grass (*Vallisneria spiralis*)—see Vallisneria.

Taraxacum (Dandelion).—*Ord.* Compositæ. Hardy perennial herb. Cultivated solely for its blanched leaves as saladings. *Nat.* Europe (Britain). *Species* cultivated, 1. *Flowers*, yellow; Mar. to Oct. *Soil*, ordinary deep, free from recent manure. *Position*, sunny. *Sow* seeds 1 in. deep in drills 12 in. apart in Ap. *Thin* seedlings to 6 in. apart in rows in May. *Remove* flower stems directly they form. *Lift* roots in Nov., & store in sand in cool place. *Plant* roots almost close together in boxes or large pots in ordinary soil. *Cover* pots, etc., to exclude light. *Place* in warm greenhouse between Nov. & Ap. *Keep* soil moist & cut leaves when 3 to 6 in. long for salads. *Destroy* roots afterwards. *Make* a fresh sowing annually.

Tarentina Pine-tree (*Pinus pinea fragilis*)—see Pinus.

Tarragon (Artemisia dracunculus). — *Ord.* Compositæ. Hardy perennial herb. *Leaves* aromatic; used for flavouring soups, vinegar, etc. *Nat.* S. Europe. *Int.* 1548. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white, green; July. *Soil*, light, dryish, ordinary. *Position*, sunny border. *Plant* roots 2 to 3 in. deep, 8 in. apart in rows 18 in. asunder, Mar. or Ap. *Replant* annually. *Cut* foliage off in Sept., & dry it for use in winter. *Place* a few roots in ordinary soil in box or large pot, & put this in warm greenhouse in Oct. to supply young shoots during winter. *Propagate* by cuttings of shoots inserted in ordinary soil in temp. 55° in Mar. or Ap., or under hand-light outdoors in July; division of the roots in Mar. or Ap.

Tartarian Honeysuckle (*Lonicera tartarica*)—see Lonicera.

Tartarian Ixia-lily (*Ixiolirion tartaricum*)—see Ixiolirion.

Tartarian Maple (*Acer tartaricum*)—see Acer.

Tartarian Mulberry (*Morus tartarica*)—see Morus.

Tartarian Pine-tree (*Pinus Laricio pallasiana*)—see Pinus.

Tartarian Sea-Lavender (*Statice tartarica*)—see Statice.

Tart Rhubarb (*Rheum rhaponticum*)—see Rheum.

Tasmanian Bellflower (*Wahlenbergia littoralis*)—see Wahlenbergia.

Tasmanian Carrot (*Geranium parviflorum*)—see Geranium.

Tasmanian Daisy-tree (*Eurybia lyrata*)—see Eurybia.

Tasmanian Everlasting (*Helichrysum apiculatum*)—see Helichrysum.

Tasmanian Heath (*Epacris exserta*)—see Epacris.

Tasmanian Honeysuckle (*Banksia australis*)—see Banksia.

Tasmanian Tree Fern (*Dicksonia antarctica*)—see Dicksonia.

Tassel Cotton-gross (*Eriophorum polystachyon*)—see Eriophorum.

Tassel Cotton-rush (*Eriophorum polystachyon*)—see Eriophorum.

Tassel Hyacinth (*Muscari comosum*)—see Muscari.

Tawny Day-lily (*Hemerocallis fulva*)—see Hemerocallis.

Taxodium (Deciduous Cypress).—*Ord.* Coniferæ. Hardy deciduous coniferous trees; orn. foliage. *Nat.* U.S.A. *Int.* 1640. *Ht.* 8 to 120 ft. *Species* cultivated, 1; varieties 4. *Leaves*, feather-shaped, deciduous, bright green changing to dull red in autn. *Habit*, pyramidal when young; broad, cedar like when full grown. *Soil*, moist loam. *Position*, margins of ponds & rivers or in damp places. Dry position quite unsuitable. *Plant*, Oct. to Feb. *Propagate* by seeds sown ½ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors the year after; cuttings of shoots inserted in water in cold greenhouse or frame in spring or sum.; layering branches in Sept. or Oct.

Taxus (Yew Tree.—*Ord.* Coniferæ. Hardy evergreen trees. *Nat.* Common species, Europe (Britain), India; other species, California, Japan, Mexico. *Ht.* 3 to 40 ft. *Species* cultivated, 5; varieties numerous. *Leaves*, flat, feathery, dark green or variegated; poisonous. *Habit*, pyramidal or bushy. *Soil*, good deep ordinary moist. *Position*, sunny or shady shrubberies for common kinds; sunny shrubberies, lawns, or borders for variegated & Irish yews. *Plant*, Sept. to Nov., Feb. to May. *Prune*, Ap. WINTER BEDDING: Sort best adapted for the purpose—T. baccata elegantissima. *Plant*, Oct. or Nov. *Lift* & replant in reserve border in May. POT CULTURE: Most suitable kind—T. baccata elegantissima. *Pot*, Oct. or Nov. *Compost*, two parts good ordinary mould, one part leaf-mould. *Water* moderately, Nov. to Ap.; freely afterwards. *Keep* in cold greenhouse, balcony, or corridor Oct. to May; outdoors afterwards, pots plunged to rims in cinders or soil. HEDGE CULTURE: Suitable kinds—Common, gold & silver striped, upright English & Irish yews. *Position*, sunny. *Soil*, good moist ordinary, previously trenched 3 spits deep & 3 ft. wide. *Plant*, Oct., Nov., Mar. or Ap. *Distance for planting*: 12 in. for trees 18 in. high; 18 in. for trees 3 ft. high; 2 ft. for trees 3 ft. 6 in. to 5 ft. high. *Prune*, trim, or clip in Ap. or Sept. *Propagate* by seeds sown 1 in. deep in light soil outdoors in Mar. or ¼ in. deep in pans or boxes of light soil, in cold frame or greenhouse in Mar., transplanting seedlings in nursery bed when large enough to handle; by cuttings of shoots inserted in sandy soil under hand-light, or in cold frame in Sept.; grafting variegated kinds on common upright yew in Mar.; layering in Sept.

Tea-berry (*Gaultheria procumbens*)—see Gaultheria.

Tea-plant (*Thea viridis*)—see Thea.

Tea-scented Rose (*Rosa indica*)—see Rosa.

Tea Tree (*Lycium barbarum*)—see Lycium.

Tecoma (Trumpet Flower, West Indian Honeysuckle, Moreton Bay Trumpet Jasmine).—*Ord.* Bignoniaceæ. Stove greenhouse & hardy evergreen climbing flowering shrubs. *Nat.* Australia, Cape of Good Hope, Fiji Islands, Peru, Japan, China, Mexico, N. & S. America, West Indies, India, Arabia, *Int.* 1640. *Ht.* 6 to 20 ft. *Species* cultivated, 1 hardy; 7 greenhouse; 6 stove. *Flowers*, orange, scarlet, bluish, pink, white, yellow; sum. CULTURE OF STOVE SPECIES (*T. valdiviana*, etc.): *Compost*, two parts loam, one part peat & silver sand. *Position*, pots or beds with shoots trained up roof. *Pot* or plant, Feb. or Mar. *Prune*, Feb., shortening strong shoots ⅓, & weak ones

§. *Water* freely, Ap. to Sept.; keep nearly dry afterwards. *Expose* shoots fully to sun during Aug. & Sept. in order to ripen them thoroughly for flowering next season. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Nov., 60° to 70°; afterwards 55° to 65°. CULTURE OF GREENHOUSE SPECIES (*T. capensis*, *T. jasminoides*, etc.): *Compost*, two parts loam, one part peat & silver sand. *Position*, large well drained pots, or beds 3 ft. square, 18 in. deep for one plant, in light sunny greenhouse; shoots trained up roof. *Pot* or plant, Feb. or Mar. *Good* drainage absolutely necessary. *Prune* away ⅓ of strong shoots, ⅔ of weak shoots, in Feb. *Water* copiously, Ap. to Oct. *Keep* nearly dry, Oct. to Ap. *Apply* weak stimulants occasionally to healthy established plants in sum. *No* shade required at any time. *Admit* air freely during sum. & early autn. to thoroughly ripen wood for insuring abundance of flowers. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. CULTURE OF HARDY SPECIES (*T. radicans*): *Soil*, two parts loam, one part peat & silver sand. *Position*, well drained border against S. wall. *Plant*, Sept. to Mar. *Prune* as for greenhouse species in Mar. *Propagate* by cuttings of firm young shoots, 3 in. long, inserted in well drained pots of sandy soil placed under bell-glass in temp. of 55° to 65° in sum.; cuttings of roots, 1 to 2 in. long, planted an inch deep in sandy soil in temp. of 55° to 65°, spring; layering shoots in Mar., Ap., Sept. or Oct.

Tecophilæa (Chilian Crocus).—*Ord.* Hæmodoraceæ. Greenhouse bulbous plants. *Nat.* Chili. *Int.* 1872. *Species* cultivated, 1; variety 1. *Flowers*, blue, white; fragrant; spring. *Compost*, two parts sandy loam, one part decayed cow manure. *Position*, well drained bed in cold frame or pots in cool greenhouse. *Plant* bulbs 3 in. deep & 6 in. apart in frame, Aug. to Nov. *Pot*, singly in 3½-in. pots or three in a 5-in. pot & 2 in. deep. *Cover* pots with ashes or fibre refuse till growth begins. *Water* moderately; keep dry after foliage turns yellow until growth recommences. No artificial heat required. *Admit* air freely to plants in pots & frames after Feb. *Propagate* by offsets removed at potting time.

Telamon Daffodil (*Narcissus telamonius*)—see Narcissus.

Telegraph plant (*Desmodium gyrans*)—see Desmodium.

Teltow Turnip (*Brassica napus* var.)—see Brassica.

Tenby Six-lobed Daffodil (*Narcissus lobularis*)—see Narcissus.

Tendrilled Trumpet-flower (*Bignonia capreolata*)—see Bignonia.

Teneriffe Houseleek (*Sempervivum ciliatum*)—see Sempervivum.

Teneriffe Laburnum (*Cytisus nubigenus*)—see Cytisus.

Teneriffe Wallflower (*Cheiranthus scoparius*)—see Cheiranthus.

Tenore's Candytuft (*Iberis Tenoreana*)—see Iberis.

Ten-petalled Sunflower (*Helianthus decapetalus*)—see Helianthus.

Ten-weeks Stock (*Mathiola annua*)—see Mathiola.

Testudinaria (Hottentot's Bread, Elephant's Foot).—*Ord.* Dioscoreaceæ. Greenhouse deciduous climber. *Nat.* S. Africa. *Int.* 1774. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Compost*, equal parts fibrous loam, turfy peat, & sand. *Position*, well drained in sunny greenhouse. *Pot*, Feb. or Mar. *Water* moderately, Ap. to Sept.; keep nearly dry afterwards. *No* shade required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings of firm side shoots inserted in sandy loam under bell-glass in temp. 45° to 55° in spring, or cuttings of young shoots when 1 to 2 in. long inserted in sandy loam under bell-glass in similar temp., spring or sum.

Tetragonia (New Zealand Spinach).—*Ord.* Ficoideæ. Hardy annual. Cultivated in gardens as a substitute for sum. spinach—especially on light dry soils. *Nat.* New Zealand. *Int.* 1772. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, yellow; sum. *Leaves*, large, thick, succulent. *Soil*, ordinary. *Position*, sunny. *Sow* seeds, previously soaked for 24 hours in tepid water, singly 1 in. deep in 2-in. pots filled with light soil in Mar. *Place* pots in temp. 55° to 65°

& keep soil moist. *Transfer* seedlings to 5-in. pots when seedlings form four leaves, harden off in cold frame, & plant out 3 ft. apart in rows 4 ft. asunder. *Gather* the leaves only for cooking. *Water* freely in dry weather. *Seeds* may be sown in open ground in May if unable to sow them in heat.

Tetratheca.—*Ord.* Tremandraceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1803. *Ht.* 1 to 2 ft. *Species* cultivated. 14. *Flowers*, pink, crimson, rose; June to Aug. *Compost*, two parts fibrous peat, one part turfy loam, one part equal proportions charcoal, broken pots & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Water* moderately at all seasons; rain water only to be used. *Shade* from sun, June to Sept. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 50° to 65°. *Propagate* by cuttings of side shoots inserted in sand under bell-glass in shade in temp. 55° to 65°, sum.

Teucrium (Germander, Cat Thyme).—*Ord.* Labiatæ. Hardy perennials & greenhouse shrubs. *Nat.* Europe (Britain), Madeira, Chili, Persia, Levant. *Ht.* 1 to 2 ft. *Species* cultivated, 5 hardy perennials; 2 greenhouse shrubs. *Flowers*, purple, blue, rose; May to Aug. CULTURE OF GREENHOUSE SPECIES (*T. betonicum* & *T. fruticans*): *Compost*, two parts loam, one part leaf-mould, & little sand. *Position*, pots in light airy greenhouse. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. *Prune* straggling shoots into shape, Feb. CULTURE OF HARDY SPECIES (*T. chamædrys*, *T. marum*, etc.): *Soil*, ordinary. *Position*, sunny borders for *T. chamædrys* & *T. orientale*; sunny dryish rockeries or old walls for *T. marum*, etc. *Plant*, Mar. or Ap. *Propagate* greenhouse species by cuttings inserted in sandy soil under bell-glass in shade in temp. 55° to 65°, spring or sum.; hardy species by division of roots in Mar. or Ap.

Texan Daisy (*Bellis integrifolia*)—see Bellis.

Thalictrum (Meadow Rue, Tufted Columbine, Spanish Tuft).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Asia, N. America. *Int.* (foreign species) 1713. *Ht.* 6 in. to 3 ft. *Species* cultivated, 8. *Flowers*, white, yellow, purple; May to June. *Leaves*, finely divided, green; excellent substitute for maidenhair fern. *Soil*, ordinary. *Position*, sunny borders for tall species, *T. aquilegifolium*, etc.; sunny rockeries for dwarf species, *T. anemonoides* & *T. minus*. *Plant*, Oct. to Mar. *Top-dress* annually in Feb. or Mar. with decayed manure. *Lift*, divide, & replant only when absolutely necessary. *Propagate* by division of roots in Mar. or Ap.

Thea (Tea Plant).—*Ord.* Ternströmiaceæ. Greenhouse evergreen flowering shrub. *Nat.* China, Japan. *Int.* 1780. *Ht.* 2 to 6 ft. *Species* cultivated, 1. *Flowers*, white; Nov. to Mar. *Leaves*, oblong, dark green. *Compost*, equal parts fibrous peat & turfy sandy loam. *Position*, well drained pots or beds in light airy greenhouse. *Pot* or plant, Feb. or Mar.; firm potting essential. *Water* somewhat freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, sum. *Place* plants outdoors on bed of cinder ashes, boards, or tiles in partial shade, June to Sept. *Prune* straggling shoots only into shape, Feb. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to June, 55° to 65°. *Propagate* by seeds sown ⅛ in. deep in sandy peat in temp. 75° in Mar.; cuttings of firm shoots inserted in well drained pots of sandy peat in cool greenhouse in Aug., transferring pots in Mar. to temp. 55°, & putting cuttings in small pots following Sept.; layering shoots in Sept.; grafting in Mar.

Theobroma (Cacao, Cocoa Tree, Chocolate Tree).—*Ord.* Sterculiaceæ. Stove evergreen trees. *Nat.* Trinidad. *Int.* 1739. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, rose, yellow; May. *Fruit*, oval, yellow, or reddish. *Compost*, equal parts fibrous loam & sand. *Position*, well drained pots in moist warm stove. *Pot*, Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Prune* into shape, Feb. *Temp.*, Oct. to Mar., 55° to 65°; Mar. to Oct., 70° to 85°. *Propagate* by cuttings of half-ripened shoots inserted in sand under bell-glass in temp. of 75° to 85°, Ap. to Aug.

Thermopsis.—*Ord.* Leguminosæ. Hardy herbaceous perennials. *Nat.* Himalayas, Kamschatcka, N. America. *Int.* 1799. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, purple, yellow; June to Aug. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown ⅛ in. deep in light rich soil in sunny position outdoors in Ap., transplanting seedlings when large enough to handle.

Thick-bulbed Daffodil (*Narcissus pachybulbos*)—see Narcissus.

Thick-leaved Indian Fig (*Opuntia crassa*)—see Opuntia.

Thick-leaved Saxifrage (*Megasea crassifolia*)—see Megasea.

Thick-leaved Small Daisy (*Bellium crassifolium*)—see Bellium.

Thick-leaved Stone-crop (*Sedum dasyphyllum* & *S. turgidum*)—see Sedum.

Thick-leaved Whortleberry (*Vaccinium crassifolium*)—see Vaccinium.

Thistle Oil Plant (*Argemone mexicana*)—see Argemone.

Thistle-upon-Thistle (*Onopordon acanthium*)—see Onopordon.

Thladiantha.—*Ord.* Cucurbitaceæ. Half-hardy annual climber. *Nat.* India, China. *Int.* 1864. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, golden; sum. *Fruit*, green, oblong, netted, & ribbed. *Soil*, ordinary. *Position*, well drained border against sunny wall. *Sow* seeds in light soil in temp. 55° to 65°, Mar. or Ap., transplanting seedlings singly into small pots when three leaves form, harden in cold frame or greenhouse & plant outdoors, May or June.

Thompson's Poppy (*Papaver umbrosum*)—see Papaver.

Thong Lily (*Imantophyllum miniatum*)—see Imantophyllum.

Thorn Apple (*Datura stramonium*)—see Datura.

Thorn Broom (*Ulex europæus*)—see Ulex.

Thornless Tooth-ache-tree (*Xanthoxylum mite*)—see Xanthoxylum.

Thorny Buttons (*Medicago muricata*)—see Medicago.

Thorough-wax (*Bupleurum rotundifolium*)—see Bupleurum.

Thread-leaved Japan Cypress (*Retinospora filifera*)—see Retinospora.

Thread-leaved Sun-dew (*Drosera filiformis*)—see Drosera.

Thready Adam's Needle (*Yucca filamentosa*)—see Yucca.

Three-bird's Toad-flax (*Linaria triornithophora*)—see Linaria.

Three-coloured Amaranth (*Amaranthus tricolor*)—see Amaranthus.

Three-coloured Camellia (*Camellia tricolor nova* & *C. tricolor imbricata plena*)—see Camellia.

Three-coloured Celeriac (*Apium graveolens rapaceum tricolor*)—see Apium in supplement.

Three-coloured Chrysanthemum (*Chysanthemum tricolor* & *C. carinatum*)—see Chrysanthemum.

Three-coloured Fig Marigold (*Mesembryanthemum tricolor*)—see Mesembryanthemum.

Three-coloured Indian Crocus (*Pleione tricolor*)—see Pleione.

Three-coloured Ivy (*Hedera helix tricolor*)—see Hedera.

Three-coloured-leaved Spindle-tree (*Euonymus japonicus tricolor*)—see Euonymus.

Three-coloured Water-lily (*Nuphar advena*)—see Nuphar.

Three-faces-under-a-hood (*Viola tricolor*)—see Viola.

Three-flowered Gooseberry (*Ribes triflorum*)—see Ribes.

Three-flowered Honeysuckle (*Lonicera triflora*)—see Lonicera.

Three-flowered Laburnum (*Cytisus triflorus*)—see Cytisus.

Three-flowered St. John's-wort (*Hypericum triflorum*)—see Hypericum.

Three-flowered Salt-tree (*Halimodendron triflorum*)—see Halimodendron.

Three-fruited Toothache-tree (*Xanthoxylum tricarpum*)—see Xanthoxylum.

Three-horned Larkspur (*Delphinium tricorne*)—see Delphinium.

Three-leaved Nightshade (*Trillium grandiflorum*)—see Trillium.

Three-leaved Rose (*Rosa sinica*)—see Rosa.

Three-leaved Tooth-wort (*Dentaria triphylla*)—see Dentaria.

Three-leaved Tulip (*Tulipa triphylla*)—see Tulipa.

Three-leaved Windflower (*Anemone trifolia*)—see Anemone.

Three-lobed Cornflower (*Rudbeckia triloba*)—see Rudbeckia.

Three-lobed-leaved Pear-tree (*Pyrus triloba*)—see Pyrus.

Three-lobed-leaved Plum-tree (*Prunus triloba*)—see Prunus.

Three-nerved St. John's-wort (*Hypericum triplinerve*)—see Hypericum.

Three-seeded Mercury (*Acalypha tricolor*)—see Acalypha.

Three-spined Saxifrage (*Saxifraga tricuspidata*)—see Saxifraga.

Three-stamened Daffodil (*Narcissus triandrus*)—see Narcissus.

Three-thorned Acacia (*Gleditschia triacanthos*)—see Gleditschia.

Three-toothed Rest-harrow (*Ononis tridentata*)—see Ononis.

Three-toothed Whitlow-grass (*Draba tridentata*)—see Draba.

Three-winged Valerian (*Valeriana tripteris*)—see Valeriana.

Thrift (*Armeria vulgaris*)—see Armeria.

Thrinax.—*Ord.* Palmaceæ. Stove orn. foliage plant. *Nat.* W. Indies. *Int.* 1778. *Ht.* 7 to 12 ft. *Species* cultivated, 7. *Leaves*, fan-shaped, green. *Compost*, two parts loam, one part peat, & little sand. *Position*, well drained pots in moist part of stove. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Moist* atmosphere highly essential. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°, ; Oct. to Mar., 55° to 65°. *Propagate* by seeds soaked for a few hours in tepid water & then sown ½ in. deep in sandy loam in temp. of 75° to 85° any time.

Throat-wort (*Trachelium cœruleum*, *Campanula cervicaria*, & *Digitalis purpurea*)—see Trachelium, Campanula, & Digitalis

Thunbergia.—*Ord.* Acanthaceæ. Stove & greenhouse evergreen shrubs, climbers, or trailing annuals & perennials. *Nat.* S. Africa, Madagascar, Mysore, India, West Africa, Sierra Leone, Fernando Po. *Int.* 1796. *Ht.* 3 to 20 ft. *Species* cultivated, 3 annuals; about 12 perennial climbers; 1 shrub. *Flowers*, white, orange, purple, blue, scarlet; fragrant; spring & sum. CULTURE OF ANNUAL SPECIES (*T. alata*, etc.): *Compost*, two parts loam, one part leaf-mould or decayed manure, & one part sand. *Sow* seeds thinly in light compost in a well drained pot, pan, or box, in temp. 65° to 75°, in Feb. or Mar. *Transplant* seedlings when three leaves form singly in 3½-in. pots, & later on into 5-in. size. *Place* pots afterwards alongside of staging, & let shoots hang down; or in baskets suspended from roof. *May* also be planted outdoors in June against sunny walls, in window boxes, or in vases. *Water* freely. *Apply* weak stimulants occasionally when in flower. CULTURE OF SHRUBBY AND PERENNIAL SPECIES (*T. erecta*, *T. laurifolia*, *T. mysorensis*, etc.): *Compost*, equal parts leaf-mould or well decayed manure, peat, fibrous loam, & silver sand. *Position*, well drained pots in shady part of stove during growing period; light part during the resting period for T. erecta: well drained beds with shoots trained up roof for T. laurifolia, etc. *Pot*, Feb. or Mar. *Prune* moderately. Feb. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Syringe* daily, Mar. to Sept. *Apply* stimulants occasionally, May to Sept. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in sandy peat & leaf-mould in temp. 75° to 85°, Jan. to May; cuttings of firm young shoots, 2 to 3 in. long, inserted in leaf-mould, peat, & sand under bell-glass in temp. 75° to 85°, Feb. to June.

Thunberg's Lily (*Lilium Thunbergianum*)—see Lilium.

Thunderbolt Iris (*Iris Xiphium*)—see Iris.

Thunia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* N. India, Trinidad, Mountains of Moulmein, Burmah. *Int.* 1836. *Ht.* 1 to 2 ft. *Species* cultivated, 8; varieties several. *Flowers*, white, purple, yellow, mauve; sum. *Compost*, equal parts rough fibrous peat, loam, & silver sand. *Position*, light part of stove. *Pot*, Mar. *Water* moderately when young growths appear; freely when 3 to 4 in. long; keep quite dry after growth has completed & leaves fallen off. *Growths* require full exposure to sun. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Propagate* by division of pseudo-bulbs at potting time; also by cutting up old stems into pieces about 6 in. long & inserting them in above compost singly in small pots in temp. 65° to 75°, Sept. or Oct.

Thuya (Arbor-vitæ).—*Ord.* Coniferæ. Hardy evergreen trees & shrubs. Orn. foliage. *Nat.* N. America, China, Japan, & Nootka Sound. *Int.* 1596. *Ht.* 10 to 150 ft. *Species* cultivated, 6; varieties numerous. *Leaves*, small, scale-like. *Habit*, pyramidal. *Soil*, deep, moist loam. *Position*, open sunny shrubberies, lawns, banks, or margins of water. *Plant*, Sept. to Nov., & Feb. to Ap. *Prune*, Ap. or Sept. *Depth* for planting roots, 6 to 8 in. POT CULTURE: *Compost*, two parts loam & one part leaf-mould. *Pot*, Sept. or Oct. *Position*, cold frame, window sill, or cold greenhouse, Nov. to May; plunged to rim of pots in ashes or fibre refuse in sunny spot outdoors afterwards. *Water* freely, Ap. to Oct.; moderately afterwards. HEDGE CULTURE: *Suitable kinds*—T. gigantea, T. occidentalis, & T. orientalis. *Soil*, ordinary moist, previously trenched 3 spits deep & 3 ft. wide. *Plant*, Sept., Oct., Mar. or Ap. *Distance apart for planting*: 15 to 18 in. *Height of trees*: 18 in. to 4 ft. *Prune*, trim, or clip, Ap. or Sept. *Propagate* by seeds sown ⅛ in. deep in sandy soil in temp. 55° in spring, transplanting seedlings in open ground when large enough to handle, by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or in cold frame in Sept.; grafting in Mar.

Thuyopsis.—*Ord.* Coniferæ. Hardy evergreen tree. Orn. foliage. *Nat.* Japan. *Int.*, date unknown. *Ht.* 20 to 40 ft. *Species* cultivated, 1; varieties 2. *Leaves*, scale-like, broad, green above, silvery beneath. *Habit*, pyramidal. *Soil*, deep, moist loam. *Position*, open sunny shrubberies, lawns, banks, or margins of water. *Plant*, Sept. to Nov., Feb. to Ap. *Prune*, Ap. or Sept. *Depth* for planting roots, 6 to 8 in. POT CULTURE: *Compost*, two parts loam & one part leaf-mould. *Pot*, Sept. or Oct. *Position*, cold frame, window sill, or cold greenhouse, Nov. to May; plunged to rim of pots in ashes or fibre refuse in sunny spot outdoors afterwards. *Water* freely, Ap. to Oct.; moderately afterwards. HEDGE CULTURE: *Suitable kinds*—T. gigantea, T. occidentalis, & T. orientalis. *Soil*, ordinary moist, previously trenched 3 spits deep & 3 ft. wide. *Plant*, Sept., Oct., Mar., or Ap. *Distance apart for planting*: 15 to 18 in. *Height of trees*: 18 in. to 4 ft. *Prune*, trim, or clip, Ap. or Sept. *Propagate* by seeds sown ⅛ in. deep in sandy soil in temp. 55° in spring, transplanting seedlings in open ground when large enough to handle; by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or in cold frame in Sept.; grafting in Mar.

Thyme (*Thymus vulgaris*)—see Thymus.

Thyme-leaved Fuchsia (*Fuchsia thymifolia*)—see Fuchsia.

Thyme-leaved Globe Daisy (*Globularia cordifolia nana*)—see Globularia.

Thyme-leaved Rhododendron (*Rhododendron chamæcistus*)—see Rhododendron.

Thyme-leaved Sun-rose (*Helianthemum thymifolium*)—see Helianthemum.

Thyme Oil Plant (*Thymus vulgaris*)—see Thymus.

Thymus (Garden & Lemon-scented Thyme).—*Ord.* Labiatæ. Hardy aromatic shrubby perennial. *Shoots* used largely for culinary purposes. *Nat.* S. Europe. *Int.* 1548. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, rosy purple; June. *Soil*, light, rich ordinary. *Position*, sunny warm border. *Plant*, 4 in. apart in rows 8 in. asunder, Mar. or Ap. *Replant* every 3 or 4 years. *Gather* shoots when blossoms appear, & dry for winter use. *Propagate* by seeds sown ⅛ in. deep in lines 8 in. apart in Ap., thinning seedlings to 4 in. apart in May or June; by division of the plant in Mar. or Ap., each portion being furnished with a few roots.

Thyrsacanthus (Thyrse Flower).—*Ord.* Acanthaceæ. Stove evergreen flowering shrubs. *Nat.* New Grenada, Mexico, Bhotan, W. Indies, Columbia, Honduras. *Int.* 1823. *Ht.* 2 to 3 ft. *Species* cultivated, 8. *Flowers*, red, white, purple, crimson; Nov. to Mar. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, well drained pots in light stove, Sept. to June; sunny frame, June to Sept. *Pot*, Mar. or Ap. *Water* moderately, Sept. to Mar.; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally, May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to J

Thyrse-flower (*Thyrsacanthus rutilans*)—see Thyrsacanthus.

Tiarella (False Mitre-wort).—*Ord.* Saxifragaceæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1731. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white; Ap. *Soil*, ordinary. *Position*, sunny rockeries or flower borders. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap.

Tick Bean (*Faba vulgaris equina*)—see Faba.

Tick-seed (*Coreopsis tinctoria*)—see Coreopsis.

Tick-seed Sun-flower (*Coreopsis trichosperma*)—see Coreopsis.

Tick Trefoil (*Desmodium gyrans*)—see Desmodium.

Tickle-my-fancy (*Viola tricolor*)—see Viola.

Tiger-chop (*Mesembryanthemum tigrinum*)—see Mesembryanthemum.

Tiger Flower (*Tigridia pavonia*)—see Tigridia.

Tiger Iris (*Tigridia pavonia*)—see Tigridia.

Tiger Lily (*Lilium tigrinum*)—see Lilium.

Tiger's-tail Spruce (*Picea polita*)—see Picea.

Tigridia (Tiger Flower, Tiger Iris).—*Ord.* Iridaceæ. Half-hardy or greenhouse bulbs. *Nat.* Mexico, Peru. *Int.* 1796. *Ht.* 1 to 2 ft. *Species* cultivated, 7; varieties several. *Flowers*, purple, yellow, white, crimson, scarlet, violet; May to Sept. *Blooms* last in perfection but one day only. OUTDOOR CULTURE: *Soil*, equal parts rich loam & leaf-mould with little sand in partially shaded bed prepared by digging out soil to depth of 24 in.; place 6 in. of brickbats or clinkers in bottom & remainder compost; or for ordinary culture an open sunny border & any good soil. *Plant* bulbs 3 in. deep, 5 to 6 in. apart, placing little sand under & around each in Ap. *Mulch* with decayed manure & cocoanut-fibre refuse when 3 in. high. *Water* freely in dry weather. *Lift* bulbs in Oct., tie in small bundles, & suspend in cool, airy, frost-proof place until following Ap. POT CULTURE: *Compost*, two parts sandy loam, one part peat, & one part sand. *Pot* the bulbs singly in 4½-in. pots in Mar. or Ap. *Cover* pots with cinder ashes or cocoanut-fibre refuse in cold frame or under stage in cold greenhouse until growth begins, then remove to light. *Water* moderately after growth begins; freely when well advanced. *Apply* weak stimulants occasionally when flower stems show. *Position when in flower*, light airy greenhouse or cold sunny frame. *After flowering*, gradually withhold water until foliage turns yellow, then keep quite dry. *Remove* bulbs from soil, tie into bundles & suspend in cool place until potting time following Ap. *Propagate* by seeds sown ⅛ in. deep in light compost in temp. 55° to 65°, spring; by offsets removed & treated as advised for old bulbs in Ap.

Tilia (Lime Tree, Linden Tree, American Wood, Bass Wood).—*Ord.* Tiliaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* Europe (Britain), N. America. *Ht.* 20 to 60 ft. *Species* cultivated, about 7; varieties several. *Flowers*, white, yellow; fragrant; sum. *Leaves*, heart-shaped, green or variegated. *Soil*, good ordinary or loamy, moist. *Position*, sunny. *Plant*, Oct. to Mar. *Prune*, Nov. to Feb. *Not* suitable for dry soils or exposed places. *Propagate* by layering shoots in autn.; choice kinds by grafting on common species in Mar.

Tillandsia (Old Man's Beard, Spanish Moss).—*Ord.* Bromeliaceæ. Stove epiphytal perennials. *Nat.* Southern Tropical America. *Int.* 1790. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 76. *Flowers*, blue, violet, yellow, green, white, scarlet; winter. *Bracts*, rosy crimson, pink, purplish green. *Compost*, equal parts fibrous loam, rough peat, silver sand, & leaf mould. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* daily, Ap. to Sept. *Moist* atmosphere essential in sum. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by offsets inserted in small pots of sandy peat in temp. 75° to 85° in spring.

Tinus-leaved Daphne (*Daphne tinifolia*)—see Daphne.

Titmouse Walnut (*Juglans regia*—thin-shelled var.)—see Juglans.

Toad-cup Lily (*Marica cærulea*)—see Marica.

Toad-Flax (*Linaria vulgaris*)—see Linaria.

Toad-flower (*Stapelia bufonia*)—see Stapelia.

Toad Lily (*Fritillaria nigra*)—see Fritillaria.

Tobacco Plant (*Nicotiana tobaccum*)—see Nicotiana.

Toddy Palm (*Caryota urens*)—see Caryota.

Todea (Crape Fern).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Australia, New Zealand, S. Africa. *Int.* 1861. *Ht.* 1 to 6 ft. *Species* cultivated, 4; varieties several. *Fronds*, finely or coarsely divided; dark green; mostly semi-transparent. *Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone, & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringing* unsuitable. *Moist* atmosphere & shade most essential. *Temp.*, 55° to 65°, Mar. to Sept.; 45° to 55°, Sept to Mar. *T. superba* & *T. pellucida* suitable for cold houses. *T. africana* & *T. Vroomi*, not filmy ferns, hence require less atmospheric moisture. CULTURE IN CASES: *Compost*, as above. *Position*, shady window, not exposed to sun. *Pot* or plant, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Ventilate* case few minutes daily. *Suitable kinds*, *T. superba* & *T. pellucida*. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Tolmia.—*Ord.* Saxifragaceæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1812. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green; Ap. *Calyx*, purple-nerved. *Soil*, ordinary. *Position*, sunny rockeries or flower borders. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.

Tolpis (Yellow Garden Hawkweed).—Hardy annuals *Nat.* S

Europe. *Int.* 1620. *Ht.* 1 to 4 ft. *Species* cultivated, 7. *Flowers*, yellow, purple; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in patches or lines where required to grow; thin seedlings when 2 to 3 in. high to 6 or 8 in. apart.

Tomato (*Lycopersicum esculentum*)—see Lycopersicum.

Tom Thumb Fuchsia (*Fuchsia pumila*)—see Fuchsia.

Tom Thumb Lily (*Lilium tenuifolium*)—see Lilium.

Tongue-blade (*Ruscus hypoglossum*)—see Ruscus.

Tongue-grass (*Lepidium sativum*)—see Lepidium.

Tonquin Bean (*Dipterix odorata*)—see Dipterix.

Tooth-ache-tree (*Xanthoxylum fraxineum*)—see Xanthoxylum.

Tooth-cress (*Dentaria bulbifera*)—see Dentaria.

Tooth-leaved Blue-bush (*Ceanothus dentatus*)—see Ceanothus.

Tooth-violet (*Dentaria bulbifera*)—see Dentaria.

Tooth-wort (*Dentaria bulbifera*)—see Dentaria.

Toothed Bladder Fern (*Cystopteris dentata*)—see Cystopteris.

Toothed False Dragon's-head (*Physostegia denticulata*)—see Physostegia.

Toothed-flowered St. John's-wort (*Hypericum angulosum*)—see Hypericum.

Toothed-leaved Primrose (*Primula denticulata*)—see Primula.

Toothed-leaved Water-lily (*Nymphæa dentata*)—see Nymphæa.

Toothed Pink (*Dianthus dentosus*)—see Dianthus.

Torch Lily (*Tritoma uvaria*)—see Tritoma.

Torch Thistle (*Cereus strigosus*)—see Cereus.

Torenia.—*Ord.* Scrophulariaceæ. Stove annuals. *Nat.* India, China, Cochin China. *Int.* 1811. *Species* cultivated, 3 annuals; 5 perennials. *Flowers*, blue, white, lilac, violet, yellow; sum. *Compost*, equal parts loam & leaf-mould, one part equal proportions of sand & charcoal. *Position*, small pots with shoots trained to sticks, or in baskets suspended from roof. *Sow* seeds thinly in compost of equal parts peat, loam, leaf-mould, & sand, in Jan. or Feb. *Cover* with sprinkling of fine soil, & place in temp. 55° to 65°. *Transplant* seedlings when three leaves form ½ in. apart in well drained pots filled with above compost. *Place* seedlings when 1 to 3 in. high singly in small pots, & transfer when well rooted to 5-in. pots, or three in a 6 in. size. *Nip* off point of main shoot when 3 in. long, also of side shoots when 2 in. long to induce bushy growth. *Water* freely. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. Annual species (*T. asiatica*, *T Fourneri*, etc.) may be grown as perennials, propagating the plants by cuttings of young shoots 3 in. long, inserted in sandy soil, in temp. 55° to 65° in spring or sum.

Torreya (Stinking Yew, Stinking Cedar, Californian Nutmeg.—*Ord.* Coniferæ. *Nat.* California, China, Japan, Florida. *Int.* 1840. *Ht.* 20 to 40 ft. *Species* cultivated, 4. *Soil*, light, sandy loam. *Position*, sheltered sunny, well drained shrubberies. *Plant*, Sept., Oct., Mar. or Ap. *Seldom* grown in England; too tender. *Propagate* as advised for Taxus.

Torrey's Pentstemon (*Pentstemon Torreyi*)—see Pentstemon.

Totara Pine-tree (*Podocarpus totara*)—see Podocarpus.

Touch-me-not (*Impatiens noli-me-tangere*)—see Impatiens.

Tough-leaved Iris (*Iris tenax*)—see Iris.

Tournefortia (Summer Heliotrope).—*Ord.* Boraginaceæ. Greenhouse flowering shrubs. *Nat.* Caucasus, Buenos Ayres. *Int.* 1800. *Ht.* 2 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow, lilac; sum. *Compost*, equal parts light loam, leaf-mould & sand. *Position*, pots or beds, with shoots growing loosely or trained to trellis, walls, pillars or rafters in greenhouse; in sunny beds outdoors, June to Sept., or in pots in windows. *Pot*, Feb. to May.

Plant, outdoors; June. *Lift* & repot, Sept. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* liquid or artificial manure to healthy plants in flower. *Prune* old plants in closely in Feb. *Training*: Nip off points of main, also lateral shoots when 3 in. long, to form dwarf plants; points of main shoots when 12 in. long, & side shoots when 3 to 6 in. long, to form pyramids; points of main shoots when 2 ft. long, & of lateral shoots at apex when 3 to 6 in. long – all side shoots to within 4 in. of apex to be removed altogether—to form standards. *Temp.*, Feb. to Oct., 60° to 70°; Oct. to Feb., 50° to 55°. *Pot* plants do best in cold frame or sunny position outdoors, July & Aug. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots or pans of light soil in temp. 65° to 75° in Mar.; by cuttings of shoots, 2 to 3 in. long, inserted in pots of sandy soil under bell-glass, or in propagator in temp. 65° to 75° in Mar., Ap., Aug. or Sept.

Tournefort's Nettle-tree (*Celtis Tournefortii*)—see Celtis.

Towel Gourd (*Luffa ægyptiaca*)—see Luffa.

Town-cress (*Lepidium sativum*)—see Lepidium.

Toxicophlæa (Winter Sweet).—*Ord* Apocynaceæ. Greenhouse evergreen shrubs. *Nat.* S. Africa. *Int.* 1787. *Ht.* 4 to 6 ft. *Species* cultivated, 2. *Flowers*, white, yellow; fragrant; Nov. to Ap. *Compost*, equal parts loam & leaf-mould with little charcoal & sand. *Position*, well drained pots in warm moist stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Apply* weak stimulants occasionally; May to Sept. *Prune*, Feb., shortening straggling shoots only. *Temp.*, Ap. to Oct., 60° to 70°; Oct. to Ap., 50° to 55°. *Propagate* by cuttings inserted in light peaty soil under bell-glass in temp., 55°, spring or sum.

Trachelium (Blue Throat-wort).—*Ord.* Campanulaceæ. Hardy herbaceous perennial. *Nat.* Italy. *Int.* 1640. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, blue, white; Aug. *Compost*, two parts sandy loam, one part leaf-mould. *Position*, sunny rockeries. *Plant*, Mar. or Ap. *Protect* in severe weather by covering of dry fern fronds. *Propagate* by seeds sown in above compost, lightly covered with fine light mould, place in temp. of 55° to 65°, spring, transplant seedlings when large enough to handle, harden in cold frame & plant out, May or June; cuttings of young shoots inserted in sandy soil under bell-glass in Ap. or Sept.

Trachylospermum—see Rhyncospermum.

Tradescantia (Spider-wort, Flower-of-a-Day). — *Ord.* Commelinaceæ. Stove, greenhouse, & hardy herbaceous perennials. *Nat.* Mexico, Brazil, Jamaica, Peru, N. Carolina, Guatemala, Florida. *Int.* 1629. *Ht.* 1 to 2 ft. *Species* cultivated, 20 stove; 4 greenhouse; 5 hardy. *Flowers*, blue, white, lilac; sum. CULTURE OF STOVE SPECIES: *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, in pots or baskets suspended from the roof, or in beds under stage or on rockeries. *Pot* or plant, Jan. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Moist* atmosphere essential. *Temp.*, for stove species, 55° to 65°, Oct. to Ap.; 70° to 85°, Ap. to Oct.; greenhouse species, 40° to 50°, Oct. to Ap.; 55° to 65°, Ap. to Oct. CULTURE OF HARDY SPECIES: *Soil*, ordinary. *Position*, partially shady or sunny borders or beds. *Plant*, Oct., Nov., Mar. or Ap. *Lift*, divide, & replant every 3 or 4 years. *Excellent* plants for town gardens. *Propagate* stove & greenhouse species by cuttings of young shoots inserted in light soil under bell-glass in above temp. any time of year; hardy species by division of roots, Mar. or Ap.

Tragacanth Gum-plant (*Astragalus tragacantha*)—see Astragalus.

Tragopogon (Salsafy, Vegetable Oyster).—*Ord.* Compositæ. Hardy biennial esculent-rooted vegetable. *Nat.* N. Europe. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, purple, May & June. *Roots* long, tapering, white internally & externally. *Soil*, ordinary fine, rich, deeply trenched, free from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills ½ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., twist off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures for:* 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. of guano mixed per square rod (30¼ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Trailing Arbute Tree (*Epigæa repens*)—see Epigæa.

Trailing Broom (*Genista humifusa*)—see Genista.

Trailing Fuchsia (*Fuchsia procumbens*)—see Fuchsia.

Trailing Lobelia (*Lobelia erinoides*)—see Lobelia.

Trailing Toad-flax (*Linaria supina*)—see Linaria.

Trailing Whortle-berry (*Vaccinium humifusum*)—see Vaccinium.

Trailing Wolf's-bane (*Aconitum rectinatum*)—see Aconitum.

Transparent Trumpet Lily (*Lilium eximium*)—see Lilium.

Trapa (Water Caltrops, Water Chestnut, Jesuit's Nut).—*Ord.* Onagraceæ. Stove & hardy aquatic floating herbs. *Nat.* India, Ceylon, Persia, S. Europe. *Int.* 1781. *Species* cultivated, 1 stove; 2 hardy. *Flowers*, insignificant. CULTURE OF STOVE SPECIES: *Soil*, rich loam. *Position* in large shallow tub in cistern of water in warm stove. *Plant*, any season. *Temp.*, Ap. to Oct., 70° to 85°; Oct. to Ap., 55° to 65°. CULTURE OF HARDY SPECIES: *Soil*, rich loamy. *Position*, sunny; shallow pots or tubs in cool greenhouse. *Plant*, Ap. or May. *Propagate* by seeds sown in loamy soil in water in temp. of 65° to 75° in spring.

Traveller's Joy (*Clematis vitalba*)—see Clematis.

Traveller's Tree (*Ravenala madagascariensis*)—see Ravenala.

Treacle Clover (*Psoralea bituminosa*)—see Psoralea.

Treacle Mustard (*Erysimum cheiranthoides*)—see Erysimum.

Treacle Wormseed (*Erysimum cheiranthoides*)—see Erysimum.

Treasure-flower (*Gazania pavonia*)—see Gazania.

Tree Celandine (*Bocconia frutescens*)—see Bocconia.

Tree Cinquefoil (*Potentilla frutescens*)—see Potentilla.

Tree Club-moss (*Selaginella cæsia-arborea*)—see Selaginella.

Tree Cotton-plant (*Gossypium arboreum*)—see Gossypium.

Tree Dahlia (*Dahlia imperialis*)—see Dahlia.

Tree Germander (*Teucrium fruticans*)—see Teucrium.

Tree Heath (*Erica arborea*)—see Erica.

Tree Horsetail (*Casuarina equisetifolia*)—see Casuarina.

Tree House-leek (*Sempervivum arboreum*)—see Sempervivum.

Tree Lupin (*Lupinus arboreus*)—see Lupinus.

Tree Mallow (*Lavatera arborea*)—see Lavatera.

Tree Mignonette (*Reseda odorata*)—see Reseda.

Tree-of-Chastity (*Vitex agnus-castus*)—see Vitex.

Tree-of-Heaven (*Ailantus glandulosus*)—see Ailantus.

Tree-of-the-Gods (*Ailantus glandulosus*)—see Ailantus.

Tree-of-the-Sun (*Retinospora obtusa*)—see Retinospora.

Tree Onion (*Allium cepa proliferum*)—see Allium.

Tree Pæony (*Pæonia moutan*)—see Pæonia.

Tree Poke (*Phytolacca dioica*)—see Phytolacca.

Tree Primrose (*Œnothera biennis*)—see Œnothera.

Tree Rest-harrow (*Ononis arborescens*)—see Ononis.

Tree Rhododendron (*Rhododendron arboreum*)—see Rhododendron.

Tree Sage (*Salvia arborea*)—see Salvia.

Tree Thorn-apple (*Datura arborea*)—see Datura.

Tree Thorough-wax (*Bupleurum fruticosum*)—see Bupleurum.

Tree Trefoil (*Cytisus laburnum*)—see Cytisus.

Tree Violet (*Viola arborescens*)—see Viola.

Tree Whortle-berry (*Vaccinium arborescens*)—see Vaccinium.

Tree Worm-wood (*Artemisia arborescens*)—see Artemisia.

Tremandra.—*Ord.* Tremandreaceæ. Greenhouse evergreen flowering shrub. *Nat.* W. Australia. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, purplish; sum. *Compost*, two parts fibrous peat, one part turfy loam, one part equal proportions charcoal, broken pots, & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Water* moderately at all seasons; rain water only to be used. *Shade* from sun., June to Sept. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 50° to 65°. *Propagate* by cuttings of side shoots inserted in sand under bell-glass in shade in temp. of 55° to 65° in sum.

Triangular-stemmed Broom (*Genista triquetra*)—see Genista.

Trichocentrum.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Tropical America *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, about 7. *Flowers*, cinnamon, white, purple, yellow, brown, magenta; Oct. to May. *Position*, attached by means of copper wire to blocks of soft wood, rafts, or tree fern stems, & suspended from roof. *No* moss or peat required. *Water* freely twice daily by dipping block, etc., into vessel of tepid water, Ap. to Sept.; once daily afterwards. *Shade* from sun. *Moist* atmosphere essential during sum. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs.

Trichomanes (Killarney Fern, Bristle Fern).—*Ord.* Filices. Greenhouse filmy ferns. *Nat.* Ireland, N. America, New Zealand, West Indies, Mauritius, Borneo, Luzon, B Guiana, New Grenada. *Ht.* 3 to 12 in. *Species* cultivated, about 40. *Fronds*, more or less divided, semi-transparent. *Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone, & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringing* unsuitable. *Damp* atmosphere & shade most essential. *Temp.*, 55° to 65°, Mar. to Sept.; 45° to 55°, Sept. to Mar. CULTURE IN CASES IN ROOMS: *Compost*, as above. *Position*, shady window, not exposed to sun. *Plant*, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Ventilate* case few minutes daily. *Species* most suitable, *T. radicans*. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Trichopilia.—*Ord.* Orchidaceæ. Greenhouse evergreen epiphytal orchids. *Nat.* Peru, Central America, Mexico, New Grenada, Chiapas. *Int.* 1821. *Ht.* 3 to 6 in. *Species* cultivated, about 15. *Flowers*, white, yellow, crimson, purple, brown, rose; more or less fragrant; various seasons. *Compost*, equal parts fibrous peat, fresh sphagnum moss, charcoal, & clean crocks. *Position*, well drained pots with base of plant slightly elevated above rim, or in basket suspended from roof of light greenhouse close to glass. *Pot*, Feb. or Mar., or immediately new growth begins. *Water* moderately, Mar. to Sept.; very little afterwards. *Moist* atmosphere essential in sum. *Shade* from sun. *Growing period*, Mar. to Sept.: *resting period*, Sept. to Mar. *Temp.*, May to Sept., 55° to 65°; Sept. to Feb., 45° to 55°; Feb. to May, 50° to 60°. *Propagate* by division of pseudo-bulbs at potting time.

Trichosanthes (Snake Gourd, Serpent Cucumber, Viper Gourd).—*Ord.* Cucurbitaceæ. Greenhouse annual climbers. *Nat.* India, Japan, China, W. Indies. *Int.* 1735. *Ht.* 4 to 10 ft. *Species* cultivated, about 4. *Flowers*, white; May to July. *Fruit*, very long, cucumber-like, twisted. *Compost*, equal parts sandy loam, leaf-mould, & fibrous peat. *Position*, well drained pots with shoots trained up roof of sunny greenhouse. *Sow* seeds singly 1 in. deep in 2-in. pots filled with above compost, placed in temp. 65° to 75°, Feb. or Mar. *Transplant* seedlings when three leaves form into 4½-in. pots, & when well rooted into 8-in. size. *Water* freely; use tepid water only. *Syringe* daily, May to Sept. *Shade* from mid-day sun. *Apply* weak stimulants twice a week, May to Sept. *Temp.*, 60° to 70°.

Trichosma.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Kihasya Mountains. *Int.* 1840. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, creamy, white, crimson; fragrant; Feb. to May. *Compost*, equal parts fresh sphagnum moss & fibry peat. *Position*, pots or pans half filled with potsherds, & placed close to glass. *Pot*, Feb. or Mar.; keep base of plant well above rim of pot or pan. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Nov. 65° to 75°; Nov. to Mar., 60° to 70°. *Water* freely, Mar. to Aug.: moderately, Aug. to Nov.; very little, Nov. to Mar. *Growing period*, Mar. to Aug.; *resting period*, Sept. to Feb. *Propagate* by division of bulbs at potting time.

Tricyrtis (Japanese Toad Lily).—*Ord.* Liliaceæ. Half-hardy perennials. *Nat.* Japan, China, Himalayas. *Int.* 1851. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, white, yellow, green, striped with purple or red; May and June. GREENHOUSE CULTURE: *Compost*, equal parts sandy loam, peat, & silver sand. *Position*, well drained pots in cool greenhouse or cold frame. *Pot*, Oct. to Mar. *Plunge* pots to rim in cocoanut-fibre refuse or cinder ashes in cool greenhouse or cold frame, & give no water till growth commences, then apply moderately. *When* stems are 3 in. high, place plants in light airy position in greenhouse. *No* shade required. *Apply* weak stimulants once a week during flowering period. *After* flowering gradually withhold water till foliage turns yellow, then keep dry, & store pots away in cold frame or under staging in cool greenhouse until Feb. or Mar. OUTDOOR CULTURE: *Soil*, peaty. *Position*, partially shady sheltered moist border. *Plant* rhizomes 2 in. below surface, Oct. to Mar. *Protect* in severe weather with covering of litter. *Plants* grown outdoors do not flower until autn. *Propagate* by offsets removed at planting or potting time.

Trientalis (Chickweed Winter Green, Star Flower).—*Ord.* Primulaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. W. America. *Ht.* 4 to 6 in. *Species* cultivated, 2. *Flowers*, white; May. *Soil*, ordinary light rich. *Position*, shady borders, margins of rhododendron beds, rockeries or woodlands. *Plant*, Nov. to Ap. *Propagate* by seeds sown in light rich soil, lightly covered with fine mould under hand-light in shady position outdoors in Ap.; division of roots, Nov or Mar.

Trifolium (Clover, Trefoil, Alsike Clover, Bastard Clover, Bastard Lupine, Buffalo Clover, Oval-headed Clover).—*Ord.* Leguminosæ. Hardy annuals & perennials. *Nat.* Britain, European Alps, Western Asia, N. America, California, Siberia. *Ht.* 6 to 18 in. *Species* cultivated, 3 annuals; 9 perennials. *Flowers*, purple, crimson, rose, carmine, yellow, brown; June to Sept. CULTURE OF ANNUAL SPECIES (*T. incarnatum*, *T. reflexum*, *T. fucatum*): *Soil*, ordinary, containing a little old mortar or pounded limestone. *Position*, sunny borders. *Sow* seeds ⅛ in. deep in patches where required to grow & flower. *Thin* seedlings when three leaves form, 3 to 4 in. apart. CULTURE OF PERENNIAL SPECIES (*T. alpestre*, *T. uniflorum*, *T. lupinastre*, etc.): *Soil*, as above. *Position*, sunny rockeries for *T. alpestre* & *T. uniflorum*; borders for other kinds. *Plant*, Oct. to Ap. *Propagate* perennial species by seeds sown broadcast in ordinary soil in sunny border outdoors in Ap.; transplanting seedlings when large enough to handle into permanent positions; by division of plants, Oct. or Mar.

Trigonella (Fenugreek).—*Ord.* Leguminosaæ. Hardy annuals. *Nat.* Switzerland, S. of France. *Int.* 1562. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, white, blue; June to Aug. *Leaves*, feather-shaped. *Soil*, ordinary.

Position, sunny borders. *Sow* seeds in Ap. in patches lightly covered with fine mould. *Thin* seedlings when three leaves form to 6 in. apart.

Trillium (American Wood Lily, Three-leaved Nightshade, Beth-root. Birth-root, Lamb's Quarters, Indian Shamrock).—*Ord.* Liliaceæ. Hardy tuberous-rooted perennials. *Nat.* N. America. *Int.* 1700. *Ht.* 6 to 18 in. *Species* cultivated, about 9; varieties several. *Flowers*, red, white, purple, green; Ap. to July. *Soil*, sandy peat. *Position*, shady moist well drained border. *Plant*, Aug. to Nov. *Top-dress* annually in Mar. with layer of decayed leaves. *Lift*, & replant only when absolutely necessary. *Propagate* by seeds sown in shallow well drained boxes or pans filled with sandy peat, cover seeds lightly with fine mould & place in shady cold frame; division of tuberous roots, Aug. to Nov.

Triplet Lily (*Tritelia uniflora*)—see Tritelia.

Trip-madam (*Sedum reflexum*)—see Sedum.

Tripoli Crowfoot (*Ranunculus asiaticus sanguineus*)—see Ranunculus.

Tripoly (*Aster tripolium*)—see Aster.

Tritelia (Triplet Lily, Ithuriel's Spear, Lilac Star-flower, Murray's Star-flower).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* Monte Video, California, Chili, Buenos Ayres. *Int.* 1832. *Ht.* 6 in. *Species* cultivated, 5. *Flowers*, yellow, blue, white, violet, lilac; Jan. to July. OUTDOOR CULTURE: *Soil*, deep loam. *Position*, sunny well drained rockeries or borders. *Plant* bulbs 3 in. deep & 2 in. apart in masses, Sept. to Nov. & Feb. & Mar. *Protect*, Oct. to Mar. by covering of cinder ashes, cocoanut-fibre refuse, or old manure. *Lift* & replant bulbs every four or five years. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Pot*, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 5-in. pots. *Position*, cold frame from time of potting till growth begins, then remove to light, cool greenhouse. *Cover* pots entirely with cinder ashes or cocoanut-fibre refuse until growth begins. *Water* when growth commences, moderately at first, freely afterwards. *Keep* dry after flowers fade & foliage turns yellow. *Repot* annually. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots, pans, or baskets of sandy soil in cold frame or greenhouse, Feb. to Ap.; offsets removed & treated as old bulbs at potting or planting time.

Trithrinax.—*Ord.* Palmaceæ. Stove orn. foliage plants. *Nat.* Rio Grande, Brazil. *Int.* 1875. *Ht.* 6 to 10 ft. *Species* cultivated, 2. *Leaves*, roundish oval; green. *Compost*, two parts loam, one part peat & little sand. *Position*, well drained pots in moist part of stove. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Moist* atmosphere highly essential. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds soaked for a few hours in tepid water & then sown $\frac{1}{2}$ in. deep in sandy loam in temp. of 75° to 85°, any time.

Tritoma—see Kniphotia.

Tritonia.—*Ord.* Iridaceæ. Hardy deciduous bulbous plants. *Nat.* S. Africa. *Int.* 1758. *Ht.* 2 to 3 ft. *Species* cultivated, 15; hybrids & varieties several. *Flowers*, red, yellow, purple; sum. OUTDOOR CULTURE: *Soil*, equal parts sandy loam, leaf-mould, & decayed manure. *Position*, sunny well drained borders. *Plant* 3 in. deep & 2 in. apart in masses, Oct. to Mar. *Protect*, Nov. to Mar., by covering of dry litter. *Mulch* in Mar. with layer of decayed manure, first removing litter. *Water* occasionally in very dry weather. *Apply* stimulants occasionally during flowering period. *Lift* & replant bulbs annually. POT CULTURE: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, $4\frac{1}{2}$ in. in diameter, well drained. *Place* 5 bulbs 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame, or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Trollius (Globe Flower, Globe Ranunculus).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Britain, N. America, Siberia, Caucasus, Cashmere. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 10; varieties several. *Flowers*, yellow; May to Aug. *Soil*, deep moist ordinary or preferably loam. *Position*, partially shady borders or margins of ponds or streams. *Plant*, Oct. to Ap. *Water* freely in dry weather. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown in moist loamy soil in shady position outdoors in Sept. or Ap.; division of roots, Oct. to Ap.

Tropæolum (Garden Nasturtium, Indian Cress, Flame Flower, Canary Creeper.—*Ord.* Geraniaceæ. Greenhouse or hardy annual or perennial dwarf or climbing herbs. CANARY CREEPER (*T. peregrinum*): Half-hardy perennial, but will only succeed treated as an annual when grown outdoors. *Nat.* Peru & Mexico. *Int.* 1810. *Ht.* 3 to 10 ft. *Flowers*, yellow; sum. *Soil*, good ordinary mould or sandy loam. *Position*, against sunny or shady wall, fence, arbour, or trellis; does well on a north aspect. *Sow* seeds ⅛ in. deep in light soil in temp. 55° in Mar., harden off seedlings in cold frame in Ap. & plant outdoors in May; or ¼ in. deep outdoors in Ap. where required to grow. *Water* freely in dry weather. COMMON OR GARDEN NASTURTIUM (*T. majus*): Hardy annual. *Nat.* Peru. *Int.* 1686. *Ht.* 5 to 10 ft. *Varieties*, numerous. *Flowers*, crimson, yellow; single & double; June to Oct. *Climbing kinds*: Soil, ordinary. Position, sunny or shady walls, fences, arbours, or window boxes. Sow seed 1 in. deep in Ap. where plants are required to grow. Remove seed pods as they form to ensure free flowering. *Dwarf kinds*: Soil, ordinary, not over rich. Position, sunny or shady borders or beds. Sow seeds 1 in. deep & 3 in. apart in lines or masses in Ap. Thin seedlings to 6, 9, or 12 in. apart when 3 in. high if fine plants are desired. Remove seed pods unless seed is required. *Pot Culture:* Sow seeds ½ in. deep & 2 in. apart in 5-in. pots filled with a compost of two parts good mould & one part decayed manure in Ap. Place pots in window or cold frame. *Water* moderately at first; freely when in full growth. *Apply* stimulants occasionally when in flower. *Double varieties* propagated by cuttings in temp. 55° in spring. Plant outdoors in May or June. May be grown in pots in a compost of two parts loam, one part leaf-mould, & little sand. Pot in Mar. or Ap. Water freely in sum.; moderately other times. Temp., Oct. to Mar., 40° to 50°; Mar. to June, 55° to 65°. T. LOBBIANUM: Half-hardy herbaceous perennial. *Nat.* Columbia. *Int.* 1843. *Ht.* 6 to 10 ft. *Flowers*, orange scarlet; sum. & winter. *Outdoor Culture:* Sow seeds in light soil in temp. 55° in Mar., harden seedlings off in cold frame in Ap., & plant out in June in sunny position against walls, fences, arbours, or in borders, placing tree branches to support the shoots; or outdoors ½ in. deep in Ap. where required to grow. *Indoor Culture:* Compost two parts sandy loam, one part leaf-mould, or decayed manure & half a part sand. Position, well drained pots or beds, training shoots up rafters. Water moderately, Sept. to Ap.; freely afterwards. Propagate by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil in temp. 55° to 65° in spring. Temp., Sept. to Mar., 50° to 60°; Mar. to Sept., 65° to 75°. GREENHOUSE TUBEROUS-ROOTED SPECIES (*T. azureum*, Chili, 1842, blue, Oct., 3 ft.; *T. Jaratti*, Santiago, 1836, scarlet & yellow, June, 12 ft.; *T. tricolorum*, Chili, 1828, scarlet, black, & orange, June to Oct., 5 to 10 ft.): *Compost*, equal parts decayed turfy loam, leaf-mould, peat, & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Aug. to Nov. *Place* one tuber only in a pot & bury this about 1 in. *Water* very little till plants grow freely, then give an abundant supply. *Withhold water* entirely when foliage turns yellow & until growth recommences. *Apply* stimulants occasionally when plants are in flower. *Train* shoots to wire trellis fixed in pot or up rafters. *Temp.*, Nov. to Feb., 40° to 50°; Feb. to June, 55° to 65°. *After growth ceases*, store pots in cool place till potting time. *Propagate* by seeds sown in light sandy soil in temp. 55° to 65° in spring; cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring or sum. HARDY TUBEROUS-ROOTED SPECIES (*T. pentaphyllum*, Buenos Ayres, 1829, purple, vermilion, July, 4 ft.; *T. tuber-*

osum, Peru, 1827, yellow & red, Sept., 3 ft.; *T. speciosum*, Chili, 1846, scarlet, sum., 5 to 10 ft.; *T. polyphyllum*, Chili, 1827, yellow, June, trailing): *Soil*, light sandy loam for T. pentaphyllum; ordinary mould for T. polyphyllum; equal parts loam, peat, leaf-mould, & sand for T. speciosum; poorish mould for T. tuberosum. *Position*, south wall or fence for T. pentaphyllum; sunny bank for T. polyphyllum; partially-shaded wall or hedge for T. speciosum; sunny border for T. tuberosum. *Plant*, T. tuberosum in Mar. or Ap.; T. polyphyllum, Aug. to Nov.; T. speciosum & T. pentaphyllum, Oct. or Mar. *Water* freely in dry weather. *Mulch* with decayed manure in Oct. *Lift* tubers of T. tuberosum in Oct., store in sand in frost-proof place till Mar.; leave others undisturbed. *Propagate* by seeds sown in loam, leaf-mould, & sand in cold frame in Ap.; division of roots at planting time.

Tropical Duck-weed (*Pistia stratiotes*)—see Pistia.

True Box (*Buxus sempervirens arborescens*)—see Buxus.

True-love (*Paris quadrifolia*)—see Paris.

Truffle Oak (*Quercus pubescens. Q. robur, & Q. lanuginosa*)—see Quercus.

Trumpet Creeper (*Tecoma radicans*)—see Tecoma.

Trumpet-flower (*Tecoma radicans & Bignonia venusta*)—see Tecoma & Bignonia.

Trumpet Gourd (*Lagenaria clavata*)—see Lagenaria.

Trumpet Honeysuckle (*Lonicera sempervirens*)—see Lonicera.

Trumpet Leaf (*Sarracenia purpurea*)—see Sarracenia.

Trumpet Lily (*Lilium longiflorum & Richardia æthiopica*)—see Lilium & Richardia.

Trumpet Reed (*Arundo occidentalis*)—see Arundo.

Trumpet Weed (*Eupatorium purpureum*)—see Eupatorium.

Trumpets (*Sarracenia flava*)—see Sarracenia.

Tube-flowered Clematis (*Clematis tubulosa*)—see Clematis.

Tube-spotted Zephyr-flower (*Zephyranthes tubispatha*)—see Zephyranthes.

Tube-tongue (*Salpiglossis sinuata*)—see Salpiglossis.

Tuberose (*Polianthes tuberosa*)—see Polianthes.

Tuberose-flowered Tobacco-plant (*Nicotiana affinis*)—see Nicotiana.

Tuberose Oil-plant (*Polianthus tuberosa*)—see Polianthus.

Tuberous-rooted Begonia (*Begonia tuberosa*)—see Begonia.

Tuberous-rooted Crane's-bill (*Geranium tuberosum*)—see Geranium.

Tuberous-rooted Nasturtium (*Tropæolum tuberosum*)—see Tropæolum.

Tube-flower (*Clerodendron siphonanthus*)—see Clerodendron.

Tuberous-rooted Pea (*Orobus tuberosa*)—see Orobus.

Tuberous-rooted Swallow-wort (*Asclepias tuberosa*)—see Asclepias.

Tuberous-rooted Wistaria (*Apios tuberosa*)—see Apios.

Tuber-root (*Asclepias tuberosa*)—see Asclepias.

Tufted Bell-flower (*Campanula cæspitosa*)—see Campanula.

Tufted Cinquefoil (*Potentilla cæspitosa*)—see Potentilla.

Tufted Evening Primrose (*Œnothera cæspitosa*)—see Œnothera.

Tufted Loose-strife (*Lysimachia thyrsiflora*)—see Lysimachia.

Tufted Phlox (*Phlox cæspitosa*)—see Phlox.

Tufted Sand-wort (*Arenaria cæspitosa*)—see Arenaria.

Tufted Saxifrage (*Saxifraga cæspitosa*)—see Saxifraga.

Tufted Soap-wort (*Saponaria cæspitosa*)—see Saponaria.

Tufted Whortle-berry (*Vaccinium cæspitosum*)—see Vaccinium.

Tulip (*Tulipa gesneriana*)—see Tulipa.

Tulip-tree (*Liriodendron tulipifera*)—see Liriodendron.

Tulipa (Tulip, Dalmatian Cap).—*Ord.* Liliaceæ. Hardy bulbous-rooted plants. *Nat.* England, Siberia, Persia, Levant, Japan, Turkestan, Italy, S. France, Greece, Algeria, Smyrna, Altai Mountains. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 47; varieties innumerable. *Flowers*, various; spring & sum. *Parent of florists' tulip*—T. Gesneriana, nat. Levant, int. 1577. CLASSIFICATION OF FLORISTS' TULIP: *Seedlings*—bulbs that have not flowered. *Breeders or Selfs*—Seedlings or offsets from bulbs that have flowered & promise to develop into a good strain of one of the following classes. *Broken.*—Breeder tulips developing stripes of another colour. *Feathered.*—Having a light, heavy, or irregular dark coloured edge to the petals. *Flamed.*—Having a dark candle-flame-like spot in the centre of each petal. *Bizarres.*—Yellow petals marked with another colour. *Byblomens.*—White, marked with shades of black, violet, or purple. *Roses.*—White, marked with red. CLASSIFICATION OF ORDINARY TULIPS: *Early.*—Flowering in Mar. Example, Duc Van Thol. *Late.*—Flowering in May. Ex. Alba maxima. *Mother.*—Same as Breeders, Self-coloured. *Darwin.*—A superior strain of self-coloured tulips. *Parrot.*—Curiously-coloured blooms with large feathery-edged petals. OUTDOOR CULTURE OF ORDINARY TULIPS: *Soil*, light, ordinary, previously liberally enriched with well decayed manure. *Position*, sunny well drained beds or borders. *Plant* bulbs 4 in. deep & 6 in. apart, Oct. to Dec. *Mulch* surface of bed with decayed manure or cocoanut-fibre refuse. *Lift* bulbs directly after flowering & replant them in sunny reserve border to finish their growth; or leave until July, then lift, dry, & store away in cool place till planting time. *Bulbs* may be left in ground altogether if desired, lifting, dividing, & replanting every three years. POT CULTURE: *Compost*, two parts loam, one part decayed manure, & little sand. *Pot*, Sept. to Nov., placing three bulbs in a 5-in. or four in a 6-in. pot, & burying bulbs just below surface. *Pot* firmly. *Cover* pots with cinders or cocoanut-fibre refuse in cold frame. *Remove* to window, frame or greenhouse when growth begins & water freely. *Temp.* for forcing, 55° to 65°. CULTURE OF EXHIBITION KINDS: *Compost*, four parts good turfy loam, one part leaf-mould, one part decayed cow manure, & one part sand, mixed together & allowed to remain in a heap for one year. *Position*, well drained sunny bed, containing about 18 in. of above compost. *Plant* bulbs 3 to 4 in. deep & 6 in. apart end of Oct. or beginning of Nov. Surround each bulb with sand. *Protect* blooms with canvas awnings. *Lift* bulbs when leaves turn brown. *Store* in cool shed to dry, after which remove loose skins & place in drawers till planting time. CULTURE OF HARDY SPECIES (*T. Greigi*, *T. Clusiana*, etc.): *Soil*, light rich ordinary. *Position*, sunny borders or rockeries. *Plant*, Sept. to Nov., 3 in. deep & 6 in. apart. *Lift*, divide, & replant every four or five years. MOTHER, DARWIN, AND PARROT TULIPS; Culture as for ordinary tulips outdoors. *Propagate* by seeds sown in Feb. in light sandy soil in a cold frame; transplanting following year in bed of rich soil outdoors; by offsets removed from parent bulbs & planted 3 in. deep in a bed of light rich soil in a sunny position outdoors in Nov. Seedling bulbs flower when four to six years old; offsets when three to four years old.

Tumeric-root (*Hydrastis canadensis*)—see Hydrastis.

Tunbridge Filmy Fern (*Hymenophyllum Tunbridgense*)—see Hymenophyllum.

Turban Bellflower (*Campanula turbinata*)—see Campanula.

Turban Lily (*Lilium pomponium*)—see Lilium.

Turfing Daisy (*Pyrethrum Tchihatchewi*)—see Pyrethrum.

Turkestan Dwarf Rose (*Rosa rugosa*)—see Rosa.

Turkestan Tulip (*Tulipa turkestanica & T. Greigi*)—see Tulipa.

Turkey Alder (*Alnus oblongata*)—see Alnus.

Turkey-berry (*Solanum mammosum & S. torvum*)—see Solanum.
Turkey-corn (*Corydalis formosa*)—see Corydalis.
Turkey Crow-foot (*Ranunculus asiaticus*)—see Ranunculus.
Turkey Oak (*Quercus cerris*)—see Quercus.
Turkey-pea (*Corydalis formosa*)—see Corydalis.
Turkey Rhubarb (*Rheum palmatum*)—see Rheum.
Turkey's-beard (*Xerophyllum asphodeloides*)—see Xerophyllum.
Turk's Cap Cactus (*Melocactus communis*)—see Melocactus.
Turk's Cap Lily (*Lilium martagon*)—see Lilium.
Turk's-head Grass (*Lagurus ovatus*)—see Lagurus.
Turmeric-plant (*Curcuma longa*)—see Curcuma.
Turnip (*Brassica rapa depressa*)—see Brassica.
Turnip Cabbage (*Brassica napo-brassica*)—see Brassica.
Turnip Radish (*Raphanus raphanistrum*)—see Raphanus.
Turnip-rooted Cabbage (*Brassica caulo rapa*)—see Brassica.
Turnip-rooted Celery (*Apium graveolens rapaceum*)—see Apium.
Turnsole (*Heliotropium Peruvianum*)—see Heilotropium.
Turquoise-berried Vine (*Vitis heterophylla humulifolia*)—see Vitis.
Turtle-broom (*Chelone glabra*)—see Chelone.
Turtle-head (*Chelone glabra*)—see Chelone.
Tuscan Crocus (*Crocus etruscus*)—see Crocus.
Tuscan Honeysuckle (*Lonicera etrusca*)—see Lonicera.

Tussilago (Variegated Coltsfoot).—*Ord.* Compositæ. Hardy herbaceous perennial. Orn. foliage. *Nat.* Britain. *Ht.* 6 in. *Species* cultivated, variegated variety only (*T. farfara variegata*). *Leaves*, roundish heart-shaped, margined or spotted with creamy white. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Mar. *Position*, cold greenhouse, frame, or window. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *May* be grown outdoors in damp shady borders and ordinary soil. *Plant*, Mar. *Propagate* by division, Mar.

Tutsan (*Hypericum androsæmum*)—see Hypericum.
Twelve-o'clock-flower (*Abutilon americanum*)—see Abutilon.
Twiggy Purple Loose-strife (*Lythrum virgatum*)—see Lythrum.
Twiggy St. John's-wort (*Hypericum virgatum*)—see Hypericum.
Twiggy Sun-rose (*Helianthemum virgatum*)—see Helianthemum.
Twiggy Whortle-berry (*Vaccinium virgatum*)—see Vaccinium.
Twin-flower (*Linnæa borealis*)—see Linnæa.
Twin-flowered Dragon's-head (*Dracocephalum peregrinum*)—see Dracocephalum.
Twin-flowered Lady's-Slipper (*Cypripedium insigne*)—see Cypripedium.
Twin-flowered Rest-harrow (*Ononis geminiflora*)—see Ononis.
Twin-flowered Violet (*Viola biflora*)—see Viola.
Twin-leaf (*Jeffersonia diphylla*)—see Jeffersonia.
Twisted-branched Pine-tree (*Pinus contorta*)—see Pinus.
Twisted Daffodil (*Narcissus tortuosus*)—see Narcissus.
Twisted Elm (*Ulmus campestris tortuosa*)—see Ulmus.
Twisted Shell-flower (*Chelone obliqua*)—see Chelone.
Two-coloured Begonia (*Begonia discolor*)—see Begonia.
Two-coloured Collins's-flower (*Collinsia bicolor*)—see Collinsia.
Two-coloured Daffodil (*Narcissus bicolor*)—see Narcissus.
Two-coloured-leaved Hydrangea (*Hydrangea arborescens discolor*)—see Hydrangea.
Two-flowered Crocus (*Crocus biflorus*)—see Crocus.

Two-flowered Daffodil (*Narcissus biflorus*)—see Narcissus.

Two-flowered Laburnum (*Cytisus biflorus*)—see Cytisus.

Two-flowered Rest-harrow (*Ononis biflora*)—see Ononis.

Two-flowered Tulip (*Tulipa biflora*)—see Tulipa.

Two-leaved Tooth-wort (*Dentaria diphylla*)—see Dentaria.

Twopenny Grass (*Lysimachia nummularia*)—see Lysimachia.

Two-rowed Day-lily (*Hemerocallis disticha*)—see Hemerocallis.

Two-seeded Holly (*Ilex dipyrena*)—see Ilex.

Two-spiked Acacia (*Acacia lophantha*)—see Acacia.

Two-spined Flowering Gooseberry (*Ribes diacantha*)—see Ribes.

Two-winged-fruited Snowdrop-tree (*Halesia diptera*)—see Halesia.

Tydæa.—*Ord.* Gesneraceæ. Stove herbaceous flowering & orn. foliage plants. *Nat.* New Grenada. *Int.* 1855. *Species* cultivated, 1; hybrids & varieties many. *Flowers*, rose, yellow, crimson, purple; striped; spring & sum. *Leaves*, oval, pointed; green or crimson. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained pots or pans in shady part of plant stove. *Pot*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* rhizomes 1 in. deep singly in 5-in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering* gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 75°. *Store* when foliage has died down on their sides under stage till potting time in temp. of 50° to 55°. *Propagate* by seeds sown on surface of well drained pots of sandy peat. in temp. 75°, Mar. or Ap.; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; fully matured leaves pegged on surface of pots of sandy peat in temp. 75° to 85°; division of underground rhizomes at potting time.

Tyerman's Groundsel (*Senecio pulcher*)—see Senecio.

Tyle-berry (*Jatropha multifida*)—see Jatropha.

Typha (Reed Mace, Bullrush, Cat-o'-nine-tails, Flax-tail).—*Ord.* Typhaceæ. Hardy aquatic perennials. *Nat.* Britain. *Ht.* 3 to 7 ft. *Species* cultivated, 2. *Inflorescence*, brown; July. *Soil*, ordinary. *Position*, margins of shallow rivers or ponds. *Plant*, Oct. or Mar., by division.

Ugni Shrub (*Eugenia ugni*)—see Eugenia.

Ulex (Furze, Gorse, Whin).—*Ord.* Leguminosæ. Hardy evergreen shrubs. *Nat.* Europe (Britain). *Ht.* 1 to 3 ft. *Species* cultivated, 3; varieties several. *Flowers*, yellow: Feb. to Mar. & July to Nov. *Soil*, ordinary. *Position*, sunny banks, rockeries, or woodlands. *Plant*, Sept. to Ap. HEDGE CULTURE: *Plant*, 18 in. apart in single row. *Trim* sides in moderately close in Ap. *Propagate* by seeds sown ¼ in. deep in light soil outdoors in Ap.; cuttings inserted in ordinary soil in shady position outdoors, spring or autn.

Ulmus (Elm, Wych Elm).—*Ord.* Urticaceæ. Hardy deciduous trees. *Nat.* Europe (Britain), N. America, Siberia, China, Japan. *Ht.* 2 to 80 ft. *Species* cultivated about 9; varieties numerous. *Flowers*, insignificant. *Leaves*, green or variegated. *Soil*, ordinary for common species (*U. campestris*) deep rich loamy with gravelly subsoil for Wych Elm (*U. montana*); moist loamy for American Elm (*U. americana*). *Position*, open & sunny woodlands, parks, or shrubberies for all species & varieties. *Plant*, Oct. to Feb. *Propagate* by suckers removed & planted, Oct. to Nov.; layering shoots in Sept. or Oct.; budding choice kinds on common species, & choice variegated kinds on *U. montana* in July, or by grafting similarly in Mar.; seeds gathered as soon as ripe & sown in light soil in shady position outdoors.

Umbel-flowered Broom (*Genista umbellata*)—see Genista.

Umbel-flowered Lily (*Lilium umbellatum*)—see Lilium.

Umbel-flowered Squill (*Scilla umbellata*)—see Scilla.

Umbel-flowered Sun-rose (*Helianthemum umbellatum*)—see Helianthemum.

Umbelled Lychnis (*Lychnis flos-jovis*)—see Lychnis.

Umbelled Winter-green (*Pyrola umbellata*)—see Pyrola.

Umbilicus (Navel-wort).—*Ord.* Crassulaceæ. Hardy evergreen succulent-leaved plants. *Nat.* Britain, Spain, Sicily, Siberia, Turkestan. *Ht.* 6 to 12 in. *Species* cultivated, about 11. *Flowers*, yellow, purple, white; June. *Soil*, equal parts sandy loam & peat. *Position*, crevices or recesses of sunny rockeries. *Plant*, Mar. to June. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar.; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept., or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Umbrella Fir (*Sciadopitys verticillata*)—see Sciadopitys.

Umbrella Palm (*Kentia canterburyana*)—see Kentia.

Umbrella Pine (*Sciadopitys verticillata*)—see Sciadopitys.

Umbrella Plant (*Saxifraga peltata*)—see Saxifraga.

Umbrella Tree (*Magnolia tripetala*)—see Magnolia.

Underground Bean (*Arachis hypogæa*)—see Arachis.

Underground Onion (*Allium cepa aggregatum*)—see Allium.

Unicorn-plant (*Martynia lutea & M. proboscidea*)—see Martynia.

Unicorn-root (*Veltheimia viridifolia*)—see Veltheimia.

Uniola (Sea Oat).—*Ord.* Graminaceæ. Hardy perennial grasses. Orn. flowering. *Nat.* N. America. *Int.* date unknown. *Ht.* 4 to 8 ft. *Species* cultivated, 2. *Inflorescence* borne in large loose panicles, July & Aug. *Plant*, Mar. or Ap. *Position*, open sunny borders. *Gather* inflorescence & dry for winter use in Aug. *Propagate* by seeds sown in light rich soil outdoors in Ap.; by division of roots in Mar.

Upland Bone-set (*Eupatorium sessilifolium*)—see Eupatorium.

Upland Willow Oak (*Quercus cinerea*)—see Quercus.

Upright Adam's Needle (*Yucca stricta*)—see Yucca.

Upright Birthwort (*Aristolochia clematitis*)—see Aristolochia.

Upright-branched Elm (*Ulmus suberosa erecta*)—see Ulmus.

Upright-branched Sun-rose (*Helianthemum strictum*)—see Helianthemum.

Upright Clover (*Trifolium strictum*)—see Trifolium.

Upright Cypress (*Cupressus sempervirens stricta*)—see Cupressus.

Upright Golden Rod (*Solidago stricta*)—see Solidago.

Upright Heath (*Erica stricta*)—see Erica.

Upright Indian Cypress (*Cupressus Whitleyana*)—see Cupressus.

Upright Indian Silver Fir (*Picea Pindrow*)—see Picea.

Upright Italian Myrtle (*Myrtus communis italica*)—see Myrtus.

Upright Medlar (*Mespilus germanica stricta*)—see Mespilus.

Upright Vetch (*Vicia oroboides*)—see Vicia.

Upright Yellow-flowered Wood-sorrel (*Oxalis stricta*)—see Oxalis. Oxalis.

Urala St. John's-wort (*Hypericum uralum*)—see Hypericum.

Urceolina (Golden Urn-flower, Drooping Urn-flower).—*Ord.* Amaryllidaceæ. Greenhouse deciduous bulbous plants. *Nat.* S. America. *Int.* 1836. *Ht.* 12 to 18 in. *Species* cultivated, 13. *Flowers*, yellow, green, scarlet; June to Sept. *Compost*, two parts turfy loam, one part river sand & a few crushed bones. *Position*, well drained pots in light part of house. *Pot*, Feb., burying bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* annually & repot every three or four years only. *Temp.*, Feb. to Sept., 55° to 65°; Sept. to Feb., 40° to 50°. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings singly in 2-in. pots & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs.

Urn-flower (*Urceolina pendula*)—see Urceolina.

Urospermum.—*Ord.* Compositæ. Hardy biennial herb. *Nat.* S. Europe. *Int.* 1739. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow: June. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds $\frac{1}{8}$ in. deep in patches outdoors where required to grow & flower; thin seedlings when 2 in. high to 6 in. apart.

Utricularia (Bladderwort).—*Ord.* Lentibulariaceæ. Stove, greenhouse & hardy aquatic, terrestrial, or epiphytal herbs. *Nat.* Europe (Britain), Hong Kong, Costa Rica, Guiana. *Species* cultivated, 4 hardy; 1 greenhouse; 2 stove. *Flowers*, yellow, lilac, purple; Ap. to Aug. CULTURE OF HARDY SPECIES (*U. intermedia*, *U. minor*, *U. vulgaris*): Procure wild plants from deep pools, etc., & place them in ponds in spring; or in deep pans of water containing living sphagnum moss & keep in cold greenhouse. CULTURE OF STOVE AND GREENHOUSE SPECIES: *Compost*, equal parts fibrous peat, sphagnum moss, & crocks. *Position*, well drained pots or shallow pans placed on inverted pots in saucer of water under bell-glass or handlight in shade. *Pot*, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Admit* air for a few minutes daily every morning by tilting bell-glass or handlight. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°, for greenhouse species; Oct. to Mar, 55° to 65°; Mar. to Oct., 70° to 85°, for stove species. *Propagate* by seeds sown on surface of shallow pans filled with equal parts of sphagnum moss, peat, & sand, placed under bell-glass & kept moist in temp. of 55° to 65°, Feb., Mar., or Ap.; division of plants at potting or planting time.

Uvi Yam (*Dioscorea elata*)—see Dioscorea.

Uvularia (Bell-wort).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* N. America. *Int.*, 1710. *Species* cultivated, 4. *Ht.* 12 in. *Flowers*, yellow, purple; May & June. *Soil*, moist peat. *Position*, partially shaded border. *Plant*, Oct. & Nov. *Propagate* by division of roots in Oct.

Vaccinium (Whortleberry, Blueberry, Bilberry, Huckleberry, Moorberry, Fenberry, Bogberry, Cranberry, Flowering Box).—*Ord.* Vacciniaceæ. Stove, greenhouse & hardy deciduous & evergreen flowering or berry-bearing shrubs. *Nat.* Britain, N. America, Madeira, Java, Bolivia. *Ht.* 3 in. to 6 ft. *Species* cultivated, 2 stove; 3 greenhouse; about 20 hardy. *Flowers*, white, yellow, red, pink, purple, green, crimson, rose; spring. *Berries*, red, bluish black; edible; Aug. to Oct. CULTURE OF STOVE SPECIES (*V. Rollisoni*, etc.): *Compost*, equal parts sandy loam & peat, & little sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept, 65° to 75°; Sept. to Mar., 55° to 65°. CULTURE OF GREENHOUSE SPECIES (*V. erythrinum*, etc.): *Compost* as for stove species. *Position*, well drained pots in light part of greenhouse, Sept. to May; sunny position outdoors, May to Sept. *Pot*, Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Sept.; moderately afterwards. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to May, 55° to 65°. CULTURE OF HARDY SPECIES (*V. vitus-idæa*, etc.): *Soil*, boggy peat. *Position*, moist rockeries for *V. vitus-idæa*, *V. myrtillus* & *V. cæspitosum*; moist borders for *V. myrtilloides*, *V. virgatum*, etc. *Plant*, Sept., Oct., Mar. or Ap. *No* pruning required. *Propagate* stove & greenhouse species by cuttings of shoots inserted in sandy moist peat under bell-glass in spring or sum. Hardy species by seeds sown in shallow boxes or pans filled with moist sandy peat in temp. of 55° to 65° in spring, transplanting seedlings outdoors in sum.; cuttings of shoots inserted in sandy moist peat under handlight in shade in sum.; layering shoots in autn.; division of plants, Sept. or Mar.

Valencia Buckthorn (*Rhamnus valentinus*)—see Rhamnus.

Valerian (*Valeriana officinalis*)—see Valeriana.

Valeriana (Valerian, All-heal, Herb Bennet, St. George's Herb, Marsh Valerian, Mountain Valerian, Cretan Spikenard).—*Ord.* Valerianaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain). *Ht.* 6 in. to 3 ft. *Species* cultivated, about 4; varieties 1. *Flowers*, rose, pink; June to Sept. *Leaves*, feather-shaped, green, or golden yellow. *Soil*, ordinary. *Position*, sunny borders for *V. officinalis* & *V. Phu aurea*; sunny rockeries for *V. dioica* & *V. montana*. *Plant*, Sept. to Ap. *Lift*, divide, & replant every three or four years. *Top-dress* annually with decayed manure in Ap. *Cut* down flowering stems in Oct. *V. Phu aurea* has beautiful golden foliage; flower buds should be picked off as they form. *Propagate* by seeds sown ⅛ in. deep in light soil in sunny position outdoors in Ap.; division of roots in Mar. or Ap.

Valerianella (Corn Salad, Italian Corn Salad, Lamb's Lettuce).—*Ord.* Valerianceæ. Hardy annual salad vegetable. *Nat.* Britain. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, blue; Ap. *Leaves*, largely used in winter and spring for salads. *Soil*, ordinary. *Position*, sunny dryish border. *Sow* seeds in drills, 1 in. deep & 6 in. apart fortnightly during Aug. & Sept. *Thin* seedlings when three leaves form to 6 in. apart in the row. *Gather* leaves either separately or by cutting off the entire plant.

Vallisneria (Eel Grass, Tape Grass).—*Ord.* Hydrocharidaceæ. Half-hardy aquatic herb. *Nat.* S. Europe. *Int.* 1818. *Species* cultivated, 1. *Flowers*, white; minute; July. *Leaves*, long, narrow. *Soil*, rich loam. *Position*, deep tubs, cisterns, or aquariums filled with water. *Plant* in small pot or in heap of compost in bottom of tank, etc., Mar. or Ap. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to Sept., 60° to 75°. *Propagate* by seeds sown in moist loam in water; spring; division, Mar. or Ap.

Vallota (Scarboro' Lily).—*Ord.* Amaryllidaceæ. Greenhouse evergreen bulbous plants. *Nat.* S. Africa. *Int.* 1774. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties 4. *Flowers*, scarlet; Aug. to Oct. INDOOR CULTURE: *Compost*, equal parts good fibrous loam, leaf-mould, & sand. *Position*, well drained pots in light sunny greenhouse or window. *Pot* dry bulbs, Oct., Nov., Mar. or Ap. *Repot* established plants in June or July. *Place* bulbs with points just below the surface; pot firmly. *Water* moderately, Sept. to Mar.; freely, Mar. to June; keep nearly dry, June to Sept. *Apply* stimulants once or twice a week, Mar. to June. *Established* plants do best placed in sunny cold frame, or on layer of cinder ashes or slate, tile, or board in open air, May till flowering period. *Repotting* necessary every three or four years only. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to June, 55° to 65°. OUTDOOR CULTURE: *Soil*, light sandy loam. *Position*, warm well drained border at foot of S. wall. *Plant* bulbs, Oct., Nov., Mar. or Ap., 6 in. deep & surround with sand. *Press* soil firmly round bulbs. *Protect* in winter with a covering of dry litter or fern fronds. *Propagate* by offsets removed at potting or planting time.

Vanda (Cowslip-scented Orchid).—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* E. Indies, Malay Archipelago, China, Tropical Australia. *Int.* 1810. *Ht.* 1 to 6 ft. *Species* cultivated, 28; varieties several. *Flowers*, yellow, crimson, lilac, brown, violet, purple, white, rose; fragrant; various periods. *Compost*, clean potsherds & fresh sphagnum moss only. *Position*, teak baskets suspended from roof, or pots filled three parts of their depth with potsherds, remainder sphagnum moss; or on rafts of teak wood. *V. teres* does best with its stems secured to a branch of apple or oak fixed firmly in a pot. *Pot*, place in baskets or on rafts in Mar. *In* potting or basketing insert the roots carefully among the potsherds, & finish off with a layer of fresh sphagnum moss. *Water* copiously daily, Mar. to Oct.; moderately afterwards. *Plants* on rafts require to be dipped for a few moments daily in water. *Expose* plants fully to the sun all the year round. *Moist atmosphere* highly essential, Mar. to Oct. *Growing period*, Mar. to Oct. *Temp.*, Oct. to Mar., 60° to 70°; Mar. to Oct., 75° to 85°. *Propagate* by cutting tops off, furnished with one or two roots of tall plants, or by removing young growths with roots attached from base of plants in Feb. or Mar., & potting or placing in baskets as advised for old plants.

Van Houtte's Bell-flower (*Campanula Van Houttei*)—see Campanula.

Vanilla.—*Ord.* Orchidaceæ. Stove climbing orchid. *Nat.* Madagascar, W. Indies, La Guayra, Demarara. *Int.* 1800. *Ht.* 3 to 10 ft. *Species* cultivated, 4. *Flowers*, red, yellow, green, white; fragrant; sum. *Seed pods* form the vanilla of commerce. *Compost*, equal parts peat, sphagnum moss, & clean potsherds. *Position*, well drained pots, pans, or narrow bed with shoots trained up wall or rafter, or logs of wood. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* foliage daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of climbing stems cut into 2 or 3 in. lengths & imbedded in sphagnum moss & peat in temp. of 75° to 85° in spring.

Vanilla (*Vanilla planifolia*)—see Vanilla.

Vanilla Grass (*Hierochloë fragrans*)—see Hierochloë.

Van Thol Tulip (*Tulipa suaveolens*)—see Tulipa.

Van Volxem's Passion-flower (*Tacsonia Van Volxemi*)—see Tacsonia.

Variegated Cat's-tail Grass (*Phleum pratense variegata*)—see Phleum.

Variegated Chestnut (*Castanea vesca variegata*)—see Castanea.

Variegated Colt's-foot (*Tussilago farfara variegata*—see Tussilago.

Variegated Cut-leaved Elder (*Sambucus laciniata variegata*)—see Sambucus.

Variegated Daphne (*Daphne odora variegata*)—see Daphne.

Variegated Dwarf Spindle-tree (*Euonymus japonicus radicans variegatus*)—see Euonymus.

Variegated Elm (*Ulmus campestris viminalis variegata*)—see Ulmus

Variegated Field Maple (*Acer campestre variegatum*)—see Acer.

Variegated Fig-wort (*Scrophularia nodosa variegata*)—see Scrophularia.

Variegated Flax-lily (*Phormium tenax variegatum*)—see Phormium.

Variegated Horse Chestnut (*Æsculus hippocastanum variegatum*)—see Æsculus.

Variegated Indian Laurel (*Croton variegatus*)—see Croton.

Variegated Iris (*Iris variegata*)—see Iris.

Variegated Ivy (*Hedera Helix variegata*)—see Hedera.

Variegated Japanese Grass (*Eulalia japonica variegata*)—see Eulalia.

Variegated Laurel (*Aucuba japonica*)—see Aucuba.

Variegated-leaved Bugle (*Ajuga reptans variegata*)—see Ajuga.

Variegated-leaved Day-lily (*Hemerocallis Kwanso variegata*)—see Hemerocallis.

Variegated-leaved Mad-wort (*Alyssum saxatile variegatum*)—see Alyssum.

Variegated-leaved Periwinkle (*Vinca major elegantissima*)—see Vinca.

Variegated-leaved Privet (*Ligustrum vulgare variegatum*)—see Ligustrum.

Variegated-leaved Wormwood (*Artemisia vulgaris variegata*)—see Artemisia.

Variegated Meadow-sweet (*Spiræa ulmaria variegata*)—see Spiræa.

Variegated Milk-weed (*Asclepias variegata*)—see Asclepias.

Variegated Myrtle (*Myrtus communis variegata*)—see Myrtus.

Variegated Nettle (*Lamium maculatum*)—see Lamium.

Variegated New Zealand Flax (*Phormium tenax variegata*)—see Phormium.

Variegated Panicum (*Oplismenus variegatus*)—see Oplismenus.

Variegated Rock-cress (*Arabis lucida variegata*)—see Arabis.

Variegated Sage (*Salvia officinalis tricolor*)—see Salvia.

Variegated Tree-mallow (*Lavatera arborea variegata*)—see Lavatera.

Variegated Weeping Ash (*Fraxinus excelsior aurea pendula*)—see Fraxinus.

Various-coloured Crocus (*Crocus versicolor*)—see Crocus.

Various-coloured Star-wort (*Aster versicolor*)—see Aster.

Various-leaved Ash (*Fraxinus heterophylla*)—see Fraxinus.

Various-leaved Barberry (*Berberis heterophylla*)—see Berberis.

Various-leaved Collins's-flower (*Collinsia heterophylla*)—see Collinsia.

Various-leaved Holly (*Ilex aquifolium heterophyllum*)—see Ilex.

Various-leaved Plum (*Prunus domestica heterophylla*)—see Prunus

Various-leaved Rock-rose (*Cistus heterophyllus*)—see Cistus

Various-leaved Saxifrage (*Saxifraga diversifolia*)—see Saxifraga.

Various-leaved Thorn (*Cratægus heterophylla*)—see Cratægus.

Vase-flowered Bell-flower (*Campanula turbinata*)—see Campanula.

Vaudois Saxifrage (*Saxifraga valdensis*)—see Saxifraga.

Vegetable Fire-cracker (*Brodiæa coccinea*)—see Brodiæa.

Vegetable Hair (*Tillandsia usneoides*)—see Tillandsia.

Vegetable Marrow (*Cucurbita ovifera*)—see Cucurbita.

Vegetable Oyster (*Tragopogon porrifolius*)—see Tragopogon.

Veitch's Begonia (*Begonia Veitchi*)—see Begonia.

Veitch's Flamingo-plant (*Anthurium Veitchi*)—see Anthurium.

Veitch's Virginian Creeper (*Ampelopsis tricuspidata* [*A. Veitchi*]—see Ampelopsis.

Veltheimia.—*Ord.* Liliaceæ. Greenhouse bulbous plants. *Nat.* S. Africa. *Int.* 1768. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, red, yellow; Mar. to Aug. *Compost*, two parts sandy loam, one part well decayed cow-manure, & little sand. *Position*, light sunny greenhouse or window, Sept. to June; sunny cold frame remainder of year. *Pot* bulbs of *V. viridifolia*, Aug. to Nov.; those of *V. glauca*, Oct. to Mar. *Place* bulbs with point just below surface of compost. *Press* compost firmly in pots. *Water* moderately when new growth commences; freely when in full growth; keep nearly dry when leaves die off. *Apply* stimulants occasionally when the plants are growing freely. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to June, 55° to 65°. *Propagate* by offsets removed from parent bulbs, placed in small pots & treated as advised for large bulbs; by leaves removed close to bulbs & inserted singly in pots of sandy soil in spring or sum.

Velvet Dock (*Verbascum Thapsus*)—see Verbascum.

Velvet-flower (*Amarantus caudatus*)—see Amarantus.

Velvet-leaf (*Lavatera arborea*)—see Lavatera.

Velvet Osier (*Salix viminalis*)—see Salix.

Venetian Sumach (*Rhus cotinus*)—see Rhus.

Venice Mallow (*Hibiscus trionum*)—see Hibiscus.

Venice Turpentine-tree (*Larix europœa*)—see Larix.

Venidium.—*Ord.* Compositæ. Half-hardy perennial. *Nat.* Cape of Good Hope. *Int.* date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Ap. *Propagate* by seeds sown in light soil in temp. 55° to 65°, Mar. or Ap., transplanting seedlings outdoors, May or June; cuttings inserted in pots of sandy soil under handlight or bell-glass in greenhouse in July or Aug.; afterward placing rooted cuttings singly in small pots, keeping these in greenhouse until following Ap., then planting outdoors.

Ventricose Pitcher-plant (*Nepenthes phyllamphora*)—see Nepenthes.

Venus's Basin (*Dipsacus sylvestris*)—see Dipsacus.

Venus's Fly-trap (*Dionæa muscipula*)—see Dionæa.

Venus's Hair (*Adiantum capillus-veneris*)—see Adiantum.

Venus's Looking-Glass (*Specularia speculum*)—see Specularia.

Venus's Navel-wort (*Omphalodes linifolia*)—see Omphalodes.

Vera Cruz Aloe (*Agave lurida*)—see Agave.

Veratrum (White Hellebore, Lungwort, Black Hellebore, False Hellebore).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* Europe, Siberia, N. America. *Int.* 1548. *Ht.* 3 to 4 ft. *Species* cultivated, 3; varieties several. *Flowers*, whitish, greenish, purple; sum. *Leaves*, large, much ribbed, green. *Roots*, creeping; highly poisonous. *Soil*, light ordinary or peaty. *Position*, partially shady moist borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown in moist peaty soil outdoors, Mar. or Ap.; division of roots, Oct. or Ap.

Verbascum (Mullein, Aaron's Rod, Beggar's Blanket, Lady's Foxglove, Shepherd's Club).—*Ord.* Scrophulariaceæ. Hardy biennial & perennial herbs. *Nat.* Europe (Britain), Levant, Caucasus. *Ht.* 2 to 6 ft. *Species* cultivated, 3 perennials; about 11 biennials. *Flowers*, yellow, purplish, violet, red; sum. CULTURE OF BIENNIAL SPECIES (*V. Chaixii*, *V. Thapsus*, etc.): *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in light rich soil in sunny position outdoors in Ap., transplanting seedlings when 3 or 4 leaves form, 6 in. apart in sunny position until following Ap.; then plant where required to flower. CULTURE OF PERENNIAL SPECIES (*V. phœnicium*, *V. nigrum*, etc.): *Soil*, deep light rich ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds as advised for biennial species; by division of roots in Mar. or Ap.

Verbena (Vervain, Holly Herb, Juno's Tears, Pigeon's Grass, Simpler's Joy).—*Ord.* Verbenaceæ. Hardy annuals & biennials, & greenhouse shrubby & hardy herbaceous perennials. *Nat.* Europe (Britain), N. America, Brazil, Mexico, Peru, & Chili. *Int.* (foreign species), 1774. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4 annuals; 5 biennials; 9 hardy herbaceous; 14 greenhouse; varieties numerous. *Flowers*, various; sum. *Present race* of verbenas originally derived from the intercrcrossing of V. melindres, V. Tweediana, V. teucrioides, & V. incisa—shrubby species natives of Brazil. CULTURE OF GREENHOUSE SPECIES AND VARIETIES: *Compost*, two parts good turfy loam, & one part of equal proportions of decayed manure, leaf-mould, & sharp silver sand. *Position*, pots in light greenhouse; or cold frames in sum. *Pot*, Feb. to May. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* stimulants two or three times weekly to plants in flower. *Nip* off points of shoots during spring to induce bushy growth. *Discontinue* nipping off points of shoots six weeks before plants are required to flower. *Young plants* struck from cuttings or raised from seed best adapted for pot culture. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to June, 55° to 65°. *Shade* from sun. OUTDOOR CULTURE: *Soil*, good ordinary liberally enriched with decayed manure. *Position*, sunny beds or borders. *Plant* 12 in. apart each way in June. *Water* freely in dry weather. *Peg shoots* to surface of bed as they grow, & when they meet each other nip off their points. CULTURE OF ANNUAL AND BIENNIAL SPECIES: *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in light soil in temp. 55° in Feb., harden off seedlings in cold frame in Ap., & plant out 12 in. apart in May; or where required to grow in Ap. CULTURE OF HARDY SPECIES: *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Lift*, divide, & replant triennially. CULTURE OF V. VENOSA: Half-hardy herbaceous perennial. *Ht.* 2 ft. *Flowers*, lilac; sum. *Soil*, ordinary rich. *Position*, sunny beds or borders. *Plant*, May. *Lift* roots in Oct., store in ordinary soil in boxes in frost-proof place until Mar., then place in temp. 55°, & when new shoots form remove these with portion of old roots, place in small pots, harden off & plant out 12 in. apart in May; or plant old roots, dividing them, if necessary, direct into beds in Ap. *Peg shoots* down as they grow. *May* be grown outdoors altogether in well drained soils in sheltered districts. *Propagate* common or garden verbenas by seeds sown $\frac{1}{16}$ in. deep in pots, pans, or boxes filled with a compost of equal parts loam & leaf-mould & little sand, placed in a temp. 65° to 75° in Jan., Feb. or Mar., transplanting seedlings when third leaf forms in boxes or pans, placing these on shelf near glass in temp. 55°, transferring when fairly strong singly to 2½-in. pots, & later on to a larger size; by cuttings inserted in a bed of sandy soil in cold frame in Aug., lifting cuttings when rooted & planting 2 in. apart in boxes or pans & storing on shelf in greenhouse until Mar., then potting off singly in small pots; or young shoots taken off in Feb. or Mar. & inserted in damp sand under bell-glass in temp. 65°; hardy species, including V. venosa, by division of the roots in spring, or cuttings of shoots inserted in cold frame in Aug.

Verbena Oil-plant (*Aloysia citriodora*)—see Aloysia.

Vermilion-flowered Rhododendron (*Rhododendron cinnabarinum*)—see Rhododendron.

Vernal Gentian (*Gentiana verna*)—see Gentiana.

Vernal Iris (*Iris verna*)—see Iris.

Veronica (Speedwell, Cancer Wort).—*Ord.* Scrophulariaceæ. Half-hardy & hardy evergreen flowering shrubs & hardy herbaceous perennials. *Nat.* Europe (Britain), New Zealand, Levant, Caucasus, N. America. *Ht.* 3 in. to 3 ft. *Species* cultivated, 29 shrubby; 18 hardy herbaceous perennials. *Flowers*, white, blue, pink, purple, lilac; sum. & autn. CULTURE OF SHRUBBY SPECIES OUTDOORS: *Soil*, ordinary or loam & peat. *Position*, sunny rockeries, borders, or beds near the sea coast, or in inland sheltered districts south of the Trent. *Plant*, Sept. or Ap. *Protect* in very severe weather. *Prune* straggly plants into shape in Ap. POT CULTURE: *Compost*, two parts loam, one part peat, & little sand. *Position*, sunny greenhouse, windows, corridors, porches, or balconies. *Pot*, Sept. or Mar. *Water* freely, Ap. to Oct.; moderately other times. *Apply* stimulants occasionally to healthy plants during sum. *Plants* put out in rich soil in sunny position in May, kept well watered, lifted, & placed in pots in Sept., will usually flower freely in the greenhouse during autn. CULTURE OF HARDY PERENNIAL SPECIES: *Soil*, ordinary rich. *Position*, sunny borders or rockeries. *Plant*, Sept. to Nov., Feb. to May. *Lift*, divide, & replant triennially. *Water* freely in dry weather. *Mulch* annually in Ap. with decayed manure. *Propagate* shrubby species by cuttings inserted in sandy soil under bell-glass in spring; under handlight or in cold frame in sum.; perennials by division of roots in autn. or spring; seeds sown in light soil in shade outdoors in Ap.

Verschaffeltia.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Sychelles. *Int.* 1864. *Ht.* 12 to 80 ft. *Species* cultivated, 1. *Leaves*, roundish, divided at tips; bright green. *Compost*, two parts fibrous peat, one part equal proportions charcoal, turfy loam, & sand. *Position*, moist shady part of stove. *Pot*, Feb. or Mar. *Syringe* freely twice daily, Feb. to Oct.; once daily afterwards. *Water* freely at all times. *Shade* & moist atmosphere essential. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 65° to 75°. *Propagate* by seeds sown 1 in. deep in peat & loam in small pots in temp. 75° to 85°, spring.

Vervain Mallow (*Malva alcea*)—see Malva.

Very Prickly Box Thorn (*Lycium horridum*)—see Lycium.

Very Smooth Phlox (*Phlox glaberrima*)—see Phlox.

Viburnum (Guelder Rose, Laurestinus, Wayfaring Tree, Cotton Tree, Water Elder, Snowball Tree).—*Ord.* Caprifoliaceæ. Hardy deciduous evergreen flowering shrubs. *Nat.* Europe (Britain), Japan, Caucasus, Himalayas, China, N. America. *Ht.* 2 to 10 ft. *Species* cultivated, 7 evergreen; about 25 deciduous; varieties several. *Flowers*, white; those of Laurestinus, Dec. to Mar.; others, sum. *Soil*, good ordinary. *Position*, open sunny shrubberies. *Plant*, Oct. to Mar. *Prune* moderately after flowering. CULTURE OF LAURESTINUS (*V. Tinus*): *Soil*, deep sandy loam. *Position*, warm sheltered shrubberies, etc. *Plant* Sept., Oct. or Ap. *Prune*, Ap. *This species* also suitable for pot culture for flowering in cold greenhouses in winter. *Pot*, spring. *Position*, outdoors in semi-shady position, May till Oct.; in cold greenhouse, Oct. to May. *Water* freely while outdoors; moderately in winter. *Propagate* by cuttings of half-ripened shoots inserted in sandy loam under bell-glass in cold shady frame or handlight outdoors in Sept. or Oct.; or by layering shoots in Sept. or Oct.

Vicia (Vetch, Tare).—*Ord.* Leguminosæ. Hardy annual & perennial herbs. *Nat.* Europe (Britain), Algiers, Siberia, Taurea. *Int.* (foreign species) 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 4 perennials; 4 annuals. *Flowers*, pink, purple, blue; May to July. CULTURE OF ANNUAL SPECIES (*V. onobrychioides*, *V. polysperma*, etc.): *Soil*, ordinary. *Position*, sunny borders with shoots trained up tree branches, walls, or trellises. *Sow* seeds ½ in. deep in groups of 8 or 12 in Ap. *Water* freely in dry weather. CULTURE OF PERENNIAL SPECIES: *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Mulch* annually with decayed manure. *Lift*, divide, & replant every 4 or 5 years. *Cut* down flower stems, Oct. or Nov. *Propagate* by seeds sown ½ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Victoria (Royal Water Lily, Queen Victoria's Water Lily, Water Maize).—*Ord.* Nymphaceæ. Stove aquatic plant. Orn. foliage. *Nat.* Tropical America. *Int.* 1838. *Species* cultivated, 1. *Flowers*, white, rose, purple; sum. *Leaves*, roundish, flat, with turned-up edges; bronzy green; 4 to 6 ft. diameter; floating. *Compost*, two parts good rich turfy loam, one part decayed cow-manure. *Position*, large tank 6 ft. deep & 20 to 25 ft. wide filled with running water. *Plant*, May. *Temp of water*, 80° to 85°. *Temp. of atmosphere*, 75° to 85°, Mar. to Sept.; Sept. to Mar., 65° to 75°. *No* shade required. *Propagate* by seeds sown in pot of sandy loam submerged in water heated to temp. of 85°, & placed near glass in light position, Jan. When seedlings appear above surface, transplant singly in small pots & place in water again until May, then plant out as above advised. *The Victoria Regia* is strictly a perennial, but thrives best treated as an annual in this country.

Victorian Laurel (*Pittosporum undulatum*)—see Pittosporum.

Victorian Raspberry (*Rubus rosæfolius*)—see Rubus.

Victoria Water-Lily (*Victoria regia*)—see Victoria.

Victor's Laurel (*Laurus nobilis*)—see Laurus.

Villarsia.—*Ord.* Gentianaceæ. Greenhouse aquatic herbs. *Nat.* Australia, Cape of Good Hope. *Int.* 1786. *Ht.* 6 in. to 3 ft. *Species* cultivated, 4. *Flowers*, yellow; July & Aug. *Compost*, two parts boggy peat, one part silver sand. *Position*, well drained pots submerged to rim in tubs of water in light part of greenhouse. *Plant*, Mar. or Ap. *No* shade required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°.

Vinca (Periwinkle, Band Plant, Cut Finger, Madagascar Periwinkle). —*Ord.* Apocynaceæ. Hardy herbaceous perennials & stove evergreen shrub.

Nat. Europe (Britain), E. Indies. *Int.* (foreign species) 1758. *Ht.* 1 to 3 ft. *Species* cultivated, 1 stove shrub; 4 perennials. *Flowers*, blue, white, rose; Mar. to Oct. Culture of Stove Species (*V. rosea*): *Compost*, two parts fibrous loam, one part decayed manure, & little silver sand. *Position*, well drained pots in stove, Sept. to June; sunny cold frame or greenhouse remainder of year. *Pot*, Feb. or Mar. *Prune* shoots of old plants to within 1 or 2 in. of their base in Jan. or Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally during sum. & autn. *Nip* off points of shoots in young or old plants once or twice during July & Aug. to insure bushy habit. *Temp.*, Mar. to June, 65° to 75°; Sept. to Mar., 55° to 65°. Culture of Hardy Species (*V. major*, *V. minor*, etc.): *Soil*, ordinary. *Position*, shady borders, rockeries, or shrubberies under trees. *Plant*, Oct. to Ap. *Lift*, divide, & replant only when absolutely necessary. Pot Culture: *Compost*, two parts sandy loam, one part leaf-mould, & little sand. *Pot*, Oct. to Mar. *Position*, pots suspended in wire baskets in cold or cool greenhouses, balconies, or windows. *Water* freely, Ap. to Sept.; moderately afterwards. *Repot* annually. *Sorts* adapted for pot culture: *V. major elegantissima*, leaves green margined or blotched with creamy white; *V. minor alba*, white flowered; *V. m. argentia variegata*, green & white foliage; *V. m. aurea variegata*, green & yellow foliage; *V. m. cærulea fl. pl.*, double-blue flowered. *Propagate V. rosea* by cuttings of young shoots removed when 2 or 3 in. long in spring, & inserted in sandy soil under bell-glass in temp. 65° to 75°. Hardy species by division in Mar. or Ap.

Vine (*Vitis vinifera*)—see Vitis.

Vine-bower Clematis (*Clematis viticella*)—see Clematis.

Vinegar-tree (*Rhus typhina* & *R. glabra*)—see Rhus.

Vine Maple (*Acer circinatum*)—see Acer.

Viola (Viola, Violet, Tufted Pansy, Pansy, Heartsease).—*Ord.* Violaceæ. Hardy perennial herbs. *Nat.* (pansy & violet) Europe—Britain; other species, N. America, Siberia, Pyrenees, & Dahuria. *Ht.* 6 in. *Species* cultivated, about 7; varieties numerous. *Flowers*, various; spring & sum. Classification: *Pansies in General.*—Any free-growing or free-flowering strain, self-coloured, or variegated. *Show Pansy.*—Blooms circular, flat, & smooth, without wavy or crinkly edges; petals thick, velvety & lying closely over each other; principal or ground colour of three lower petals pure white or yellow; dark circular blotch in centre of blooms, orange eye; dark narrow belt to three lower petals; same colour as upper petals; diameter 1½ in. *Fancy Pansy.*—Blooms circular, flat, & smooth with wavy or crinkled edges; petals thick & velvety, lying closely over each other; solid, bright orange eye; large blotches of colour, with narrow belt or margin of another colour on three lower petals; top petals same colour as blotches or margins; colour, sometimes suffused; size 1½ to 2 in. in diameter. *Tufted Pansy.*—A name applied to a class of pansies, commonly called "violas," hybrids of the ordinary pansy and the Horned Violet (V. cornuta). Blooms smaller than those of ordinary pansies. Colours varied, chaste, and delicate. Habit dwarf, not spreading as in the pansy. *Trimardeau Pansy.*—A strain of French origin, noteworthy for coarseness of blooms & gaudiness of colour. Culture of Show, Fancy, and Tufted Pansies: *Soil* (a) deep, rich, moist loam, enriched with well decayed cow-manure; (b) two parts loam, one part of equal proportions of leaf-mould & sand; (c) ordinary light mould, enriched with cow-manure; (d) clayey or heavy soils, with decayed horse or cow-manure. Soil best manured & dug previous autn. *Position*, open, light, sheltered, away from roots & branches of trees, & shaded from mid-day sun. *Plant* pansies in Sept., Oct. or Ap., 12 in. apart each way; tufted pansies, Mar. or Ap., 10 in. apart each way. *Mulch* with cow-manure & leaf-mould in May or June. *Stir* the surface frequently. *Water* copiously in dry weather, applying it in the evening. *Remove* all flower buds until plants are established. *If* exhibition blooms are desired, allow only one bloom to grow on each shoot. *Manures:* (1) 1 oz. guano to a gall. of water; (2) ¼ oz. sulphate of ammonia, ¼ oz. superphosphate of lime, ¼ oz. sulphate of iron to 2 gall. of water (Griffiths); (3) liquid soot, prepared by enclosing a peck of soot & a heavy stone in a canvass bag, and immersing this with a few crystals of sulphate of iron in 30 gall. of water, used undiluted; (4) liquid cow or sheep dung, prepared by placing a peck of dung in 30 gall. of water, keeping mixture stirred at intervals for a week, then applying liquid in a clear state undiluted. All the foregoing may be applied every ten days or so during growing & flowering season. CULTURE OF VIOLET (*V. odorata*): *Soil*, ordinary, previously well enriched with well decayed manure. Clay soils require plenty of grit, decayed vegetable refuse & manure incorporated with them. Light & gravelly soils need a liberal amount of cow-manure & loam or clay mixed with them. *Position*, border or bed on north or north-east side of hedge, or under the shade of fruit trees. Full exposure to hot sum. sun undesirable. *Plant* "crowns" 9 in. apart in rows 12 in. asunder, Ap. "*Crowns*" are portions separated from parent plant, each being furnished with roots. *Water* when first planted & shade from sun. *Apply* manures recommended for pansies at intervals of three weeks during sum. *Remove* runners, *i.e.*, shoots that issue from the "crowns," as they form during sum., & keep plants free from weeds. *Lift* plants for winter blooming in Sept., & replant, 6 to 8 in. apart, in equal parts good soil & leaf-mould in a cold sunny frame. *Water* thoroughly when first planted & give no more all winter. *Ventilate* freely in fine weather. *Protect* from frost. In case of deep frames decayed manure may be used to fill up space to within 12 in. of light, putting 6 in. of above soil on this. *Replant* annually. POT CULTURE: *Compost*, two parts loam, one part leaf-mould, & one part sand. *Pot*, Ap., placing six "crowns" in a 6-in. pot. *Place* in a shady frame, & water moderately. *Plunge* pots to their rims outdoors in shade in May, & let them remain till Sept., when remove to greenhouse. *Water* freely outdoors; moderately in winter. *Winter temp.*, 40° to 50°. CULTURE OF OTHER SPECIES (V. biflora, V. calcarata, V. cornuta, V. cucullata, & V. lutea): *Soil*, ordinary, rich. *Position*, moist, partially shaded rockeries, beds, or borders. *Plant*, Mar. or Ap., 3 to 6 in. apart. *Propagate* by seeds sown in light sandy soil in boxes or pans in cold shady frame in July or Aug., transplanting seedlings into flowering positions in Sept. or Oct.; by cuttings inserted in cold shady frames in Aug. or Sept.; divisions in Sept. or Oct.

Violet (*Viola odorata*)—see Viola.

Violet-flowered Barren-wort (*Epimedium violaceum*)—see Epimedium.

Violet-flowered Cress (*Ionopsidium acaule*)—see Ionopsidium.

Violet-flowered Rocket (*Hesperis violacea*)—see Hesperis.

Violet-flowered Whitlow-grass (*Draba violacea*)—see Draba.

Violet-fruited Egg-plant (*Solanum melongena fructu-violaceo*—see Solanum.

Violet Oil-plant (*Viola odorata*)—see Viola.

Violet-scented Orchid (*Odontoglossum Warneri*)—see Odontoglossum.

Violet Wood-sorrel (*Oxalis violacea*)—see Oxalis.

Viper Gourd (*Trichosanthes colubrina*)—see Trichosanthes.

Viper's Bugloss (*Echium vulgare*)—see Echium.

Viper's Grass (*Echium vulgare & Scorzonera hispanica*)—see Echium & Scorzonera.

Virginian Bower Spinach (*Tetragonia implexicoma*)—see Tetragonia.

Virginian Clematis (*Clematis virginiana*)—see Clematis.

Virginian Cowslip (*Mertensia virginica*)—see Mertensia.

Virginian Creeper (*Ampelopsis hederacea*)—see Ampelopsis.

Virginian Date-Plum (*Diospyros virginiana*)—see Diospyros.

Virginian Juniper (*Juniperus virginiana*)—see Juniperus.

Virginian Poke (*Phytolacca decandra*)—see Phytolacca.

Virginian Rattle-snake Fern (*Botrychium virginicum*)—see Botrychium.

Virginian Red Cedar (*Juniperus virginiana*)—see Juniperus.

Virginian Silk (*Periploca græca*)—see Periploca.

Virginian Snake-root (*Aristolochia serpentaria*)—see Aristolochia.

Virginian Spider-wort (*Tradescantia virginica*)—see Tradescantia.

Virginian Stock (*Malcomia maritima*)—see Malcomia.

Virginian Sumach (*Rhus typhina*)—see Rhus.

Virginian Tobacco-plant (*Nicotiana tabacum*)—see Nicotiana.

Virginian Trumpet-flower (*Tecoma radicans*)—see Tecoma.

Virginian Yellow-flowered Flax (*Linum virginianum*) — see Linum.

Virgin Mary's Honeysuckle (*Pulmonaria officinalis*)—see Pulmonaria.

Virgin's Bower (*Clematis vitalba*)—see Clematis.

Viscaria.—*Ord.* Caryophyllaceæ. Hardy perennial. *Nat.* Algiers. *Int.* 1843. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, pinkish purple, crimson, scarlet, white; sum. *Soil*, ordinary. *Position*, open dryish beds, borders, or banks. *Plant*, Oct. to Dec. & Feb. to May. *Top-dress* with well decayed manure in Mar. or Ap. *Apply* weak liquid manure occasionally when in flower. *Lift* & replant every other year. *Propagate* by seeds sown ⅛ in. deep in light soil in sunny position outdoors in Mar. or Ap., transplanting seedlings into flowering position, Aug. to Nov.; division of plants, Sept. to Dec. & Feb. to Ap.

Viscid Flax (*Linum viscosum*)—see Linum.

Viscum (Mistletoe).—*Ord.* Loranthaceæ. Hardy evergreen parasitical plant. *Nat.* Europe (Britain). *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Flowers*, green; Mar. *Fruit*, white, roundish, viscid; winter. *Culture*: Cut a notch in bark on underside of branch & press ripe berry gently thereinto. *Time* for insertion, Mar. *Trees adapted for Mistletoe Culture*: Apple, hawthorn, poplar, lime, maple, mountain ash, cedar, larch, & oak; two first most suitable.

Vitex (Chaste Tree, Hemp Tree, Monk's Pepper Tree, Tree of Chastity). —*Ord.* Verbenaceæ. Stove & hardy evergreen flowering shrubs. *Nat.* Sicily, Ceylon, Trinidad, China, W. India, Polynesia. *Int.* 1570. *Ht.* 4 to 30 ft. *Species* cultivated, 1 hardy deciduous; about 18 stove evergreen shrubs. *Flowers*, purple, red, blue, white; May to Oct. CULTURE OF STOVE SPECIES: *Compost*, equal parts loam, peat, & little sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, sum. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. CULTURE OF HARDY SPECIES (*V. agnus castus*): *Soil*, ordinary. *Position*, sheltered warm border or against S. wall. *Plant*, Oct. to Feb. *Prune* into shape, moderately after flowering. *Propagate* stove species by cuttings of shoots inserted in pure sand under bell-glass in temp., 75° to 85°, spring or sum. Hardy species by cuttings of shoots inserted in ordinary light sandy soil under bell-glass in cool greenhouse or cold frame, Sept. or Oct.

Vitis (Grape-vine).—*Ord.* Ampelideæ. Hardy deciduous climbing shrub. *Nat.* South of the Caspian Sea. *Int.* exact date not known; supposed by some to be A.D. 10; by others A.D. 280. *Ht.* 10 to 30 ft. *Species* cultivated, 1 (*V. vinifera*); varieties about 150. *Flowers*, green. *Berries*, round or oval; white, yellow, or purple. INDOOR CULTURE: *Compost*, five parts of top spit turfy loam from an old pasture chopped into small pieces, one part old lime rubbish, one part equal proportions of charcoal & wood ashes, & one part half-inch bones. *Position*, sunny, fairly dry subsoil. *Borders:* Inside for early forcing; outside for late or ordinary culture. Width, 10 to 16 ft. that is equalling width of house. Depth, 3 ft. On cold clayey soils, surface of border best raised 18 in. above ordinary ground level, & bottom covered with layer of concrete. Place brick rubbish & old mortar 2 ft. deep at back, sloping to 18 in. in front, in bottom of border. On this put a layer of turves, grass side downwards, then fill the remaining space with above compost. A drain along bottom of front of border is advisable. *Plant*, end of Jan. or beginning of Feb.; or in the case of young plants raised from eyes in spring, June, or July. *Distance for planting:* 5 ft. apart. *Pruning—First year:* Shorten the stem of vine planted in Jan. or Feb. to within 3 in. of ground if inside; to within 2 in. of where it enters house if outside, directly after planting. Allow one strong shoot only to grow & form future stem; rub all others off when they first form. Prune this following Dec. half way back if strong; two thirds if weak. *Second year:* Allow side shoots to form & one young shoot to grow up roof 18 in. apart; rub off remainder in a young state. Nip off points of side shoots at first joint beyond bunch if any, otherwise at third or fourth joints. Prune side shoots following Dec. close to last bud or eye near main stem to form spurs, & third portion of main stem same as advised for second portion. *Third year:* Allow side shoots to form at spurs, also on third portion of main stem. If more than one shoot forms at a spur, select strongest & rub off (disbud) remainder. Nip off points of shoots as before advised. Following Dec., shorten shoots issuing from spurs, also from third portion of main stem to last eye or bud; also fourth portion of main stem to length of rafters. *Fourth and subsequent years:* Future pruning to consist of rubbing off (disbudding) all side shoots except one at each spur, nipping off (stopping) points at first joint beyond bunch or fourth from base, cutting back, Dec. or Jan., side shoots to last bud or eye from their base. *Time for starting Vines*: Nov. to ripen fruit in Ap.; Dec. for May; Jan. for June; Mar. for July. Vines started in Mar. without artificial heat will ripen in Aug. or Sept. *Temp. by night*: 35° to 40° until buds break; 45° to 50° from then until flowers expand; 50° to 55° during flowering period; 60° to 70° from then until berries are ripe. *Temp. by day:* 60° on cold & 70° to 75° on sunny days until buds break; 65° on cold & 75° to 80° on sunny days from then until vines flower; 75° on cold & 85° to 90° on sunny days onwards till grapes are ripe. *Watering Inside Borders*: Apply water heated to temp. 60° at the rate of 4 to 5 gall. per square foot when vines are started; again when shoots are 6 in. long; also just before flowers expand; lastly, when berries begin to swell for second time. *Watering Outside Borders:* Apply water similar temp. & quantity just before flowering & when berries begin to swell second time. *Syringe* morning & afternoon daily until vines flower, then cease. *Moisten* floors, staging, walls, & borders several times daily from start until berries colour, then discontinue. *Ventilation:* Open the ventilators tentatively on fine days when the sun rises, & close again early in afternoon or when sun disappears. Ventilate freely night & day during ripening period. *Liquid manures*: (1) 1 oz. guano to a gall. of water; (2) 1 oz. Clay's fertilizer to a gall. of water; (3) drainings from stable or manure heap, diluted with one third water. Apply when berries first form, & again when they commence to colour. *Solid manures:* (1) Beeson's manure, 1 lb. per sq. yard; (2) native guano, ½ lb. per sq. yard; (3) Thomson's vine manure, ½ lb. per sq. yard. Apply when vines first commence growth, again when berries form, & lastly, when they commence to colour. Lightly fork into surface & wash in with water. *Special manures for various soils*—(a) *Sandy soils not containing much humus:* 2 lbs. of guano, 3 lbs. kainit, mixed together, & latter crushed fine; apply at the rate of 2 oz. to a square yard once a week from time berries form until they change colour. (b) *Sandy soils containing much humus:* 1 lb. nitrate of soda, 2 lbs. superphosphate, 3 lbs. kainit, applied at the rate of 1½ oz. per square yard as advised for (a). (c) *Calcareous soils:* 1 lb. dried blood, 2 lbs. superphosphate, 1 lb. sulphate of potash, applied at the rate of 1 oz. to a square yard as recommended for (a). (d) *Peaty soils :* 1 lb. nitrate of soda, 3 lbs. basic slag, 2 lbs. sulphate of potash; apply 1 oz. to a square yard once a fortnight. Potash and soda to be crushed fine; mixture to be well washed in by a copious watering (Dyke). *Top dressing :* Apply 2 in. of horse or cow-manure to surface of border when vines commence to grow. Also compost of two parts loam, one part of equal proportions of wood ashes & bone shavings or ground bones applied in autn., first removing loose inert soil from surface. *Cropping :* Average weight of fruit per foot run of rod, 1 lb. Average weight of a fair-sized bunch, ¾ lbs. Average number of bunches borne by a rod 12 ft. long, about 12. Allow one bunch only to each spur, for heavy crop; one to every alternate spur for moderate crop. Thin berries when size of radish seeds. Avoid touching berries with hand or head. *Temp. for Grapes when Ripe :* 40° to 45°. Pot Culture : Two-year old plants established in 10 or 12 in. pots best adapted for fruiting in pots. No repotting required. Place in temp., 60°., Nov. to Feb. Give little water till buds break, then apply freely. Increase temp. to 65° after buds break, & to 75° when in flower; lower to 68° afterwards until stoning is completed, when again raise to 70°. Allow above temp. to be increased 5° to 10° by sun-heat. Syringe daily until vines flower. Thin berries when size of radish seeds. Apply one of above liquid stimulants three times weekly after berries form & until they are ripe. Top-dress with Standen's manure at the rate of a tablespoonful to each pot; or with two parts loam & one part Thomson's vine manure when berries form. Allow each vine to carry 6 to 8 bunches—8 to 10 lbs. altogether. Outdoor Culture : *Soil*, two parts sandy loam, one part of equal proportions of wood ashes, old mortar, half-inch bones, & rotten manure. *Position*, against a south sunny wall. *Plant*, 2 ft. apart, Nov. or Mar. *Prune*, Jan. or Feb., precisely as advised for indoor culture. *Disbud* also in a similar manner. *Manures* advised for indoor vines equally applicable for outdoor ones. Culture of Hardy Ornamental-Leaved Species (V. Labrusca, V. vulpina, etc.). *Nat.* N. America, China, Himalayas. *Ht.* 10 to 20 ft. *Species* cultivated, about 6 *Soil*, ordinary, rich. *Position*, sunny walls or arbours. *Plant*, Nov. or Feb. *Prune*, Feb., shortening previous year's shoots not required to form stems to last bud near their base. *Propagate* by seeds sown in light mould in temp. 55° to 65° in spring; by "eyes" inserted in light sandy soil in temp. 65° to 75° in Jan., Feb., or Mar.; by cuttings of shoots 6 in. long & having a slice of older branch attached at base, inserted in shady position outdoors in Oct. or Nov.; layering shoots in sum. or autn.; inarching in spring; grafting when the vines are in flower.

Vriesia.—*Ord.* Bromeliaceæ. Stove epiphytal flowering & orn. foliage plant. *Nat.* Andes of Ecuador & Peru, Brazil, Guiana, Mexico. *Int.* 1866. *Ht.* 6 to 12 in. *Species* cultivated, about 10. *Flowers*, yellow, green, white; winter. *Bracts*, rose, green, scarlet. *Compost*, equal parts fibrous loam, rough peat, silver sand, & leaf-mould. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* daily, Ap. to Sept. *Moist* atmosphere essential in sum. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by offsets inserted in small pots of sandy peat in temp. 75° to 85° in spring.

Wachendorfia.—*Ord.* Hæmoradaceæ. Half-hardy bulbous-rooted plants. *Nat.* S. Africa. *Int.* 1687. *Ht.* 12 to 18 in. *Species* cultivated, 4. *Flowers*, crimson & yellow; spring. Outdoor Culture : *Soil*, light, rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow-manure. Pot Culture : *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pot*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Wading Pondweed (*Stratiotes aloides*)—see Stratiotes.

Wafer Ash (*Ptelea trifoliata*)—see Ptelea.

Wahlenbergia (Australian Bell-flower).—*Ord.* Campanulaceæ. Greenhouse & hardy annual & perennial herbs. *Nat.* Europe (Britain), Cape of Good Hope, New Zealand, Juan Fernandez. *Int.* 1794. *Ht.* 1 to 18 in. *Species* cultivated, 2 greenhouse annuals; 2 greenhouse perennials; 1 hardy annual; 2 hardy perennials. *Flowers*, blue, white, violet; Ap. to Aug. CULTURE OF GREENHOUSE ANNUALS (*W. gracilis*, etc.): *Compost*, equal parts peat & loam with little sand. *Position*, well drained pots in sunny part of greenhouse *Sow* seeds in well drained pans in Mar. or Ap. in temp. of 55° to 60°; cover lightly with fine compost & shade from sun. *Transplant* seedlings when three leaves form, 1 in. apart, in pans, boxes, or well drained pots; when 3 in. transfer singly to small pots & grow on in greenhouse close to glass. *Water* moderately. *Temp.*, 55° to 65°. CULTURE OF HARDY ANNUALS: *Soil*, ordinary light rich. *Position*, sunny borders. *Sow* seeds thinly in patches or lines, lightly covering with fine mould, in Ap. *Thin* seedlings to 2 or 3 in. apart when 1 in. high to ensure nice bushy plants. CULTURE OF GREENHOUSE PERENNIALS (*W. saxicola, etc.*): *Compost*, same as for greenhouse annuals. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 50°. CULTURE OF HARDY SPECIES: (*W. tenuifolia, etc.*): *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Oct. to Ap. *Propagate* by seeds as advised for annual species; cuttings in sum.; division in spring.

Wainscot Oak (*Quercus cerris*)—see Quercus.

Waitzia.—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Australia. *Int.* 1835. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, yellow, brown, pink, white; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap., harden off in May, & plant out in June. *Gather* blooms when fully grown, & dry thoroughly in sum. for winter decoration. POT CULTURE: *Compost*, equal parts sandy peat, leaf-mould, loam, & decayed cow-manure. *Sow* seeds thinly in shallow pan or box in temp. 55° to 65° in Sept. for spring flowering, & in Mar. for sum. blooming. *Transplant* when three leaves have formed 1 in. apart in a 5-in. pot. *Grow* on shelf near glass. *Water* moderately at first; freely later on. *Apply* weak stimulants once a week when seedlings are 6 in. high. *Support* with neat stakes when 3 to 6 in. high. *No* shade required. *Winter temp.*, 45° to 55°.

Waldsteinia (Barren Strawberry).—*Ord.* Rosaceæ. Hardy perennial herbs. *Nat.* N. America, E. Europe. *Int.* 1800. *Ht.* 4 to 6 in. *Species* cultivated, 3. *Flowers*, yellow; Ap. to June. *Soil*, ordinary rich. *Position* on sunny rockeries. *Plant*, Oct. to Ap. *Cut* away flower stems in Sept. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in shallow boxes or well drained pots of light soil in cold frame, Ap. or July, or in sunny positions (similar depth & soil) outdoors, Ap. or Aug.; division of plants, Oct. to Ap.

Walking-leaf Fern (*Camptosorus rhizophyllus*)—see Camptosorus.

Wallace's Saxifrage (*Saxifraga Wallacei*)—see Saxifraga.

Wall Bell-flower (*Campanula muralis*)—see Campanula.

Wall Fern (*Polypodium vulgare*)—see Polypodium.

Wallflower (*Cheiranthus cheiri*)—see Cheiranthus.

Wallflower-leaved Stock (*Mathiola græca*)—see Mathiola.

Wallflower-like Sun-rose (*Helianthemum cheiranthoides*) — see Helianthemum.

Wall Gilliflower (*Cheiranthus cheiri*)—see Cheiranthus.

Wallichia.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* India. *Int.* 1825. *Species* cultivated, 2. *Ht.* 6 to 12 ft. *Leaves* feather-shaped. *Compost*, two parts rich loam, one part leaf-mould, little sand. *Position*, well drained pots in moist part of stove. *Pot*, Feb. *Water* copiously, Feb. to Oct., moderately afterwards. *Syringe* daily, sum. *Shade* from sun. *Temp.*; Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by suckers removed with roots attached, Feb. or Mar.

Wall Moss (*Sedum acre*)—see Sedum.

Wall Penny Grass (*Cotyledon umbilicus*)—see Cotyledon.

Wall Penny-wort (*Cotyledon umbilicus*)—see Cotyledon.

Wall Pepper (*Sedum acre*)—see Sedum.

Wall Rue (*Asplenium ruta-muraria*)—see Asplenium.

Wall-Rue Spleenwort (*Asplenium ruta-muraria*)—see Asplenium.

Walnut Oil-plant (*Juglans regia*) see Juglans.

Walnut Tree (*Juglans regia*)—see Juglans.

Wandering Jew (*Saxifraga sarmentosa*)—see Saxifraga.

Warcewicyella.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Central America, New Grenada. *Int.* 1867. *Ht.* 6 to 12 in. *Species* cultivated, 6. *Flowers*, white, cream, violet, purple; autn. *Compost*, equal parts rough fibrous peat & sphagnum moss & charcoal. *Position*, well drained pots or on blocks of wood (roots being covered with sphagnum moss), or in baskets suspended from roof. *Pot*, etc., Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec. Give very little, Dec. to Ap. *Shade* from sun in sum. *Moist* atmosphere essential. *Temp.*, Mar. to June, 55° to 65°; Dec. to Mar., 53° to 60°. *Propagate* by division, any time.

Warrea.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Brazil, U.S. of Columbia. *Int.* 1843. *Species* cultivated, 2; varieties, 2. *Flowers*, white, yellow, purple, blue; June or July. *Compost*, equal parts leaf-mould, loam, & decayed cow-manure *Pot*, Mar. or Ap. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely, Ap. to Sept.; moderately, Sept. to Jan.; keep nearly dry, Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*: Mar. to Oct.; *resting period*: Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Washington Lily (*Lilium Washingtonianum*)—see Lilium.

Washington Thorn (*Cratægus cordata*)—see Cratægus.

Wasted-barked Ash (*Fraxinus excelsior verrucosa*)—see Fraxinus.

Wasty-barked Spindle-tree (*Euonymus verrucosus*)—see Euonymus.

Water Agrimony (*Eupatorium cannabinum*)—see Eupatorium.

Water Aloe (*Stratiotes aloides*)—see Stratiotes.

Water Archer (*Sagittaria sagittæfolia*)—see Sagittaria.

Water Arum (*Calla palustris*)—see Calla.

Water Ash (*Fraxinus sambucifolia*)—see Fraxinus.

Water Bean (*Nelumbium speciosum*)—see Nelumbium.

Water Beech (*Carpinus americana* & *Platanus occidentalis*)—see Carpinus & Platanus.

Water Buttercup (*Caltha palustris*)—see Caltha.

Water Caltrops (*Trapa natans*)—see Trapa.

Water Cedar (*Chamæcyparis sphæroidea*)—see Chamæcyparis.

Water Chestnut (*Trapa natans*)—see Trapa.

Water Chinquapin (*Nelumbium luteum*)—see Nelumbium.

Watercress (*Nasturtium officinale*)—see Nasturtium.

Water Elder (*Viburnum opulus*)—see Viburnum.

Water Featherfoil (*Hottonia palustris*)—see Hottonia.

Water Fern (*Osmunda regalis*)—see Osmunda.

Water Flag (*Iris pseudo-acorus*)—see Iris.

Water Gilliflower (*Hottonia palustris*)—see Hottonia.

Water Gladiole (*Butomus umbellatus*)—see Butomus.

Water Gowan (*Caltha palustris*)—see Caltha.

Water Grass (*Nasturtium officinale*)—see Nasturtium.

Water Hemp (*Eupatorium cannibinum*)—see Eupatorium.

Water Lemon (*Passiflora laurifolia*)—see Passiflora.

Water Maize (*Victoria regia*)—see Victoria.

Water Melon (*Cucumis citrullus*)—see Cucumis.

Water Nut (*Trapa natans*)—see Trapa.

Water Platter (*Victoria regia*)—see Victoria.

Water Soldier (*Stratiotes aloides*)—see Stratiotes.

Water Trefoil (*Menyanthes trifoliata*)—see Menyanthes.

Water Violet (*Hottonia palustris*)—see Hottonia.

Watsonia (Bugle Lily).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* S. Africa. *Int.* 1750. *Ht.* 6 to 18 in. *Species* cultivated, 10; varieties several. *Flowers*, scarlet, pink, crimson, red, rose, flesh; June to Sept. OUTDOOR CULTURE: *Soil*, deep rich, liberally manured. *Position*, sunny, sheltered, well drained beds or borders. *Plant*, Nov., Feb. or Mar. *Place* corms 4 in. deep & 6 in. apart in groups of three, six, or twelve; put a little silver sand under each corm. *Protect* in winter with layer of manure. *Apply* liquid manure when flower buds form. *Fix* stakes to spikes when 2 or 3 in. high. *Lift* corms in Sept., & store in cool place till planting time. POT CULTURE: *Compost*, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame, cool greenhouse or window. *Pot*, Oct. to Mar., placing five corms 1 in. deep in a 6-in. pot. *Place* pots in cold frame till flower spikes show, then remove to greenhouse or window. *Water* moderately at first; freely afterwards. *Apply* liquid manure when flower spikes show. *After flowering*, gradually withhold water till foliage dies, then keep quite dry till repotted. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in pans of light rich soil in Feb., in temp. 55° to 65°; by bulbils planted 2 in. deep & 6 in. apart in sunny border outdoors, Mar.

Wavy-leaved Rock-rose (*Cistus undulatus*)—see Cistus.

Wax Dammar (*Podocarpus neriifolia*)—see Podocarpus.

Wax-flower (*Hoya carnosa*)—see Hoya.

Wax Myrtle (*Myrica cerifera*)—see Myrica.

Wax-plant (*Cerinthe major*)—see Cerinthe.

Wax-work (*Celastrus caudens*)—see Celastrus.

Wayfaring Tree (*Viburnum lantana*)—see Viburnum.

Way Thorn (*Rhamnus catharticus*)—see Rhamnus.

Weasel Chop (*Mesembryanthemum mustelinum*)—see Mesembryanthemum.

Weeping Almond-tree (*Amygdalus communis pendula*)—see Amygdalus.

Weeping Ash (*Fraxinus excelsior pendula*)—see Fraxinus.

Weeping Aspen (*Populus tremula pendula*)—see Populus.

Weeping Beech (*Fagus sylvatica pendula*)—see Fagus.

Weeping Cypress (*Cupressus funebris*)—see Cupressus.

Weeping Deciduous Cypress (*Taxodium distichum microphyllum*)—see Taxodium.

Weeping Elm (*Ulmus glabra pendula*)—see Ulmus.

Weeping Grey Poplar (*Populus canescens pendula*)—see Populus.

Weeping Hawthorn (*Cratægus oxyacantha pendula*)—see Cratægus.

Weeping Kilmarnock Willow (*Salix caprea pendula*)—see Salix.

Weeping Laburnum-tree (*Cytisus laburnum pendulus*)—see Cytisus.

Weeping Mountain Ash (*Pyrus Aucuparia pendula*)—see Pyrus.

Weeping Norway Spruce (*Abies excelsa pendula*)—see Abies.

Weeping Peach-tree (*Persica vulgaris pendula*)—see Persica.

Weeping Pear-tree (*Pyrus spuria pendula*)—see Pyrus.

Weeping Plum-tree (*Prunus cerasifera*)—see Prunus.

Weeping Poplar (*Populus pendula*)—see Populus.

Weeping Red Cedar (*Juniperus virginiana pendula*)—see Juniperus.

Weeping Red-flowered Dwarf Buck-eye (*Pavia rubra humilis pendula*)—see Pavia.

Weeping Willow (*Salix Babylonica*)—see Salix.

Weeping Wych Elm (*Ulmus montana pendula*)—see Ulmus.

Weigela—see Diervilla.

Welcome-to-our-house (*Euphorbia cyparissius*)—see Euphorbia.

Welfia.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* New Grenada. *Int.* 1869. *Ht.* 10 to 30 ft. *Species* cultivated, 1. *Leaves*, partially feather-shaped; bronzy green. *Compost*, rich loam one part, equal proportions leaf-mould, decayed cow-manure, & little sand. *Position*, well drained pots in moist part of stove. *Pot*, Feb. *Shade* from sun. *Syringe* daily, Mar. to Oct. *Moist* atmosphere essential. *Water* copiously, Mar. to Oct.; moderately other times. *Temp.*, Mar. to Oct., 65° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds previously soaked in tepid water, then sown an inch deep in turfy loam & leaf-mould in temp. 65° to 75°, spring.

Wellingtonia (*Sequoia gigantea*)—see Sequoia.

Welsh Nut (*Juglans regia*)—see Juglans.

Welsh Polypody (*Polypodium vulgare cambricum*)—see Polypodium.

Welsh Poppy (*Meconopsis cambrica*)—see Meconopsis.

West Coast Creeper (*Asclepias odoratissima*)—see Asclepias.

Western Arbor-vitæ (*Thuia gigantea*)—see Thuia.

Western Daisy (*Bellis integrifolia*)—see Bellis.

Western Honeysuckle (*Lonicera occidentalis*)—see Lonicera.

Western Plane-tree (*Platanus occidentalis*)—see Platanus.

Western Red Fir (*Abies magnifica*)—see Abies.

Western Wallflower (*Erysimum arkansanum*)—see Erysimum.

Western White Fir (*Abies concolor*)—see Abies.

West Indian Bay-berry (*Eugenia pimenta*)—see Eugenia.

West Indian Blood-flower (*Asclepias curassavica*)—see Asclepias.

West Indian Butterfly Plant (*Oncidium papilio*)—see Oncidium.

West Indian Foxglove (*Phytolacca decandra*)—see Phytolacca.

West Indian Honeysuckle (*Tecoma capensis*)—see Tecoma.

West Indian Hoop-Withe (*Rivina humilis*)—see Rivina.

West Indian Myrtle (*Eugenia pimenta*)—see Eugenia

West Indian Pagoda-tree (*Plumieria alba*)—see Plumieria.

West Indian Prune-tree (*Prunus occidentalis*)—see Prunus.

West Indian Swamp Pea-tree (*Sesbania occidentalis*)—see Sesbania.

Weymouth Pine-tree (*Pinus strobus*)—see Pinus.

Whin (*Ulex europæus*)—see Ulex.

Whin-berry (*Vaccinium myrtillus*)—see Vaccinium.

White-and-Rose-flowered Lupin (*Lupinus subcarnosus*)—see Lupinus.

White Ash (*Fraxinus alba*)—see Fraxinus.

White Aspen (*Populus alba*)—see Populus.

White Azorian Jasmine (*Jasminum azoricum*)—see Jasminum.

White Autumn Crocus (*Crocus Boryi*)—see Crocus.

White Bass-wood (*Tilia heterophylla*)—see Tilia.

White Bay-tree (*Magnolia glauca*)—see Magnolia.

White Beam-tree (*Pyrus aria*)—see Pyrus.

White Beech (*Carpinus betulus*)—see Carpinus.

White Beet (*Beta cicla*)—see Beta.

White-berried Dog-wood (*Cornus alba*)—see Cornus.

White-berried Holly (*Ilex aquifolium fructo-albo*)—see Ilex.

White-berried Privet (*Ligustrum vulgare leucocarpum*)—see Ligustrum.

White-berried Whortleberry (*Vaccinium myrtillus albis-baccis*)—see Vaccinium.

White Box Tree of N. S. Wales (*Pittosporum undulatum*)—see Pittosporum.

White Buttercup (*Ranunculus amplexicaulis*)—see Ranunculus.

White Campion (*Lychnis vespertina*)—see Lychnis.

White Cape Hyacinth (*Galtonia candicans*)—see Galtonia.

White Cedar (*Cupressus thyoides, Libocedrus decurrens* & *Thuia occidentalis*)—see Cupressus, Libocedrus & Thuia.

White Cohosh (*Actæa alba*)—see Actæa.

White-eyed Nightshade (*Solanum marginatum*)—see Solanum.

White Filbert (*Corylus avellana tubulosa alba*)—see Corylus.

White Fir (*Abies excelsa*)—see Abies.

White-flowered Broom (*Genista monosperma*)—see Genista.

White-flowered Butter-wort (*Pinguicula alpina*)—see Pinguicula.

White-flowered Columbine (*Aquilegia vulgaris alba*)—see Aquilegia.

White-flowered Currant (*Ribes sanguineum album*)—see Ribes.

White-flowered Dwarf Phlox (*Phlox nivalis*)—see Phlox.

White-flowered Early Forget-me-not (*Myosotis dissitiflora alba*)—see Myosotis.

White-flowered Fraxinella (*Dictamnus fraxinella albus*)—see Dictamnus.

White-flowered Fume-wort (*Corydalis cava albiflora*)—see Corydalis.

White-flowered Gooseberry (*Ribes niveum*)—see Ribes.

White-flowered Honesty (*Lunaria biennis albiflora*)—see Lunaria.

White-flowered Indian Jasmine (*Jasminum Sambac*)—see Jasminum.

White-flowered Indian Periwinkle (*Vinca rosea alba*)—see Vinca.

White-flowered Irish Heath (*Menziesia alba*)—see Menziesia.

White-flowered Laburnum-tree (*Cytisus albidus*)—see Cytisus.

White-flowered Lung-wort (*Pulmonaria saccharata alba*)—see Pulmonaria.

White-flowered Mullein (*Verbascum lychnitis*)—see Verbascum.

White-flowered Pæony (*Pæonia albiflora*)—see Pæonia.

White-flowered Periwinkle (*Vinca minor alba*)—see Vinca.

White-flowered Plantain Lily (*Funkia subcordata*)—see Funkia.

White-flowered Quamash (*Camassia esculenta alba*)—see Camassia.

White-flowered Rhododendron (*Rhododendron albiflorum*)—see Rhododendron.

White-flowered Round-leaved Cyclamen (*Cyclamen coum album*)—see Cyclamen.

White-flowered Sage (*Salvia argentea, S. officinalis alba, S patens alba, & S. patula*)—see Salvia.

White-flowered Spring Heath (*Erica carnea alba*)—see Erica.

White-flowered Spurge (*Poinsettia pulcherrima albida*)—see Poinsettia.

White-flowered Stonecrop (*Sedum album*)—see Sedum.

White-flowered Thrift (*Armeria maritima alba*)—see Armeria.

White Fritillary (*Fritillaria melagris alba*)—see Fritillaria.

White-fruited Currant (*Ribes rubrum album*)—see Ribes.

White-fruited Egg-plant (*Solanum melongena fructu-albo*)—see Solanum.

White-fruited Spindle-tree (*Euonymus europæus fructu-albo*)—see Euonymus.

White Heart Cherry (*Cerasus duracina*)—see Cerasus.

White Hellebore (*Veratrum album*)—see Veratrum.

White Helleborine (*Cephalanthera grandiflora*)—see Cephalanthera.

White Henbane (*Hyoscyamus albus*)—see Hyoscyamus.

White Honeysuckle (*Azalea viscosa*)—see Azalea.

White Hyacinth Bean (*Dolichos albus*)—see Dolichos.

White Italian Honeysuckle (*Lonicera caprifolium alba*)—see Lonicera.

White Lady's Slipper (*Cypripedium candidum*)—see Cypripedium.

White-leaved Sun-rose (*Helianthemum polifolium*)—see Helianthemum.

White Lily (*Lilium candidum*)—see Lilium.

White-lipped Whortleberry (*Vaccinium leucostomum*)—see Vaccinium.

White Maidenhair Fern (*Asplenium ruta-muraria*)—see Asplenium.

White Mallow (*Althæa officinalis*)—see Althæa.

White Maple (*Acer dasycarpum*)—see Acer.

White-margined Plantain Lily (*Funkia marginata*)—see Funkia.

White Mariposa Lily (*Calochortus venustus*)—see Calochortus.

White Mulberry-tree (*Morus alba*)—see Morus.

White Musk Mallow (*Malva moschata alba*)—see Morus.

White Mustard (*Sinapis alba*)—see Sinapis.

White Nosegay-tree (*Plumieria alba*)—see Plumieria.

White Oak (*Quercus sessiliflora*)—see Quercus.

White Persian Lilac (*Syringa persica alba*)—see Syringa.

White Pine (*Pinus strobus*)—see Pinus.

White Poplar (*Populus alba*)—see Populus.

White Poppy (*Papaver somniferum*)—see Papaver.

White Runner Bean (*Phaseolus multiflorus albiflorus*)—see Phaseolus.

White Sassafras-tree (*Laurus albida*)—see Laurus.

White Shell-flower (*Chelone glabra*)—see Chelone.

White Spider-wort (*Tradescantia virginica alba*)—see Tradescantia.

White Spruce (*Abies alba*)—see Abies.

White Spruce Fir (*Abies alba*)—see Abies.

White Swamp Oak (*Quercus bicolor*)—see Quercus.

White Thorn (*Cratægus oxyacantha*)—see Cratægus.

White Tiger Flower (*Tigridia pavonia albiflora*)—see Tigridia.

White Variegated Elm (*Ulmus campestris foliis variegatis*)—see Ulmus.

White Variegated Sycamore-tree (*Acer pseudo-platanum albo-variegatum*)—see Acer.

White Walnut-tree (*Juglans cinerea*)—see Juglans.

White Water Lily (*Nymphæa alba*)—see Nymphæa.

White Willow (*Salix alba*)—see Salix.

White Wood (*Tilia americana*)—see Tilia.

White Zephyr-flower (*Zephyranthes candida*)—see Zephyranthes.

Whitish-flowered Laburnum (*Cytisus leucanthus*)—see Cytisus.

Whitish-leaved Barberry (*Berberis dealbata*)—see Berberis.

Whitish-leaved Sun-rose (*Helianthemum canescens*)—see Helianthemum.

Whitlavia.—*Ord.* Hydrophyllaceæ. Hardy annual. *Nat.* California. *Int.* date unknown. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, blue; June. *Soil*, ordinary rich. *Position*, sunny or partially shaded beds or borders. *Sow* seeds in patches or lines where required to grow in Ap. *Thin* seedlings 2 to 3 in. apart in June.

Whitlow Grass (*Draba aizoides* & *Saxifraga trifurcata*)—see Draba & Saxifraga.

Whitlow-wort (*Paronychia argentea*)—see Paronychia.

Whitsun Lily (*Narcissus poeticus*)—see Narcissus.

Whorled Holly (*Ilex aquifolium verticillata*)—see Ilex.

Whorled-leaved American Lily (*Lilium philadelphicum*)—see Lilium.

Whorled Primula (*Primula verticillata*)—see Primula.

Whorl-leaved Tick-seed (*Coreopsis verticillata*)—see Coreopsis.

Whortleberry (*Vaccinium myrtillus*)—see Vaccinium.

Whortle Bilberry (*Vaccinium myrtillus*)—see Vaccinium.

Whortled Solomon's Seal (*Polygonatum verticillatum*)—see Polygonatum.

Widow's Flower (*Scabiosa atro-purpurea*)—see Scabiosa.

Wig Tree (*Rhus cotinus*)—see Rhus.

Wigandia.—*Ord.* Hydrophyllaceæ. Stove orn. foliage plants. *Nat.* Caraccas., Mexico. *Int.* 1836. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Flowers*, lilac; sum. *Leaves*, large, very wrinkled, more or less downy. *Soil*, ordinary. *Position*, sunny sheltered beds outdoors, May to Oct.; warm greenhouse remainder of year. *Plant*, May or June. *Lift*, Sept. or Oct. *Propagate* by seeds sown in light soil in temp. 65° to 75° in Feb.; cuttings inserted in sandy soil under bell glass in temp. 75° in spring. Usually treated as an annual; seldom preserved during the winter.

Wild American Crane's-bill (*Geranium maculatum*)—see Geranium.

Wild Candytuft (*Iberis amara*)—see Iberis.

Wild Caper Bush (*Euphorbia lathyris*)—see Euphorbia.

Wild Cotton (*Eriophorum polystachyon*)—see Eriophorum.

Wild Damson (*Prunus insitia*)—see Prunus.

Wild Flax (*Linaria vulgaris*)—see Linaria.

Wild Geranium (*Geranium robertianum* & *G. pratense*)—see Geranium.

Willow Herb (*Epilobium hirsutum*)—see Epilobium.

Wild Hyacinth (*Scilla nutans*)—see Scilla.

Wild Ipecacuanha (*Asclepias curassavica*)—see Asclepias.

Wild Lemon-tree (*Podophyllum peltatum*)—see Podophyllum.

Wild Liquorice Plant of India (*Abrus precatorius*)—see Abrus.

Wild Marsh Beet (*Statice limonium*)—see Statice.

Wild Medlar (*Mespilus germanica sylvestris*)—see Mespilus.

Wild Nard (*Asarum europæum*)—see Asarum.

Wild Olive-tree (*Olea oleaster* & *Elæagnus angustifolius*)—see Olea & Elæagnus.

Wild Plum-tree (*Prunus communis*)—see Prunus.

Wild Red American Raspberry (*Rubus strigosus*)—see Rubus.

Wild Service-tree (*Pyrus torminalis*)—see Pyrus.

Wild Snowball (*Ceanothus americanus*)—see Ceanothus.

Wild Spinach (*Chenopodium Bonus-Henricus*)—see Chenopodium.

Wild Sweet William of North America (*Phlox maculata*)—see Phlox.

Wild Teasel (*Dipsacus sylvestris*)—see Dipsacus.

Wild Tulip (*Tulipa sylvestris*)—see Tulipa.

Wild Tulip of California (*Calochortus venustus*)—see Calochortus.

Wild Turkey Pea (*Corydalis formosa*)—see Corydalis.

Wild Wood Vine (*Ampelopsis quinquefolia*)—see Ampelopsis.

Wilding (*Pyrus malus*)—see Pyrus.

Willow (*Salix alba*)—see Salix.

Willow Herb (*Epilobium angustifolium*)—see Epilobium.

Willow-leaved Ox-eye (*Buphthalmum salicifolium*)—see Buphthalmum.

Willow-leaved Pear-tree (*Pyrus salicifolia*)—see Pyrus.

Willow-leaved Poplar (*Populus nigra salicifolia*)—see Populus.

Willow-leaved Sea Buckthorn (*Hippophaë salicifolius*)—see Hippophaë.

Willow-leaved Speedwell (*Veronica salicifolia*)—see Veronica.

Willow Oak (*Quercus Phellos* & *Q. salicina*)—see Quercus.

Willow Thorn (*Hippophaë rhamnoides*)—see Hippophaë.

Willow-weed (*Lythrum salicaria*)—see Lythrum.

Wilson's Filmy Fern (*Hymenophyllum Wilsoni*)—see Hymenophyllum.

Windflower (*Anemone nemorosa*)—see Anemone.

Windflower Crow-foot (*Ranunculus anemonoides*)—see Ranunculus.

Windflower Meadow Rue (*Thalictrum anemonoides*)—see Thalictrum.

Wind-root (*Asclepias tuberosa*)—see Asclepias.

Winged Elm (*Ulmus alata*)—see Ulmus.

Winged Everlasting (*Ammobium alatum*)—see Ammobium.

Winged Seed (*Ptelea trifoliata*)—see Ptelea.

Winter Aconite (*Eranthis hyemalis*)—see Eranthis.

Winter-blooming Iris (*Iris scorpioides*)—see Iris.

Winter Bloom (*Hamamelis virginica*)—see Hamamelis.

Winter Cactus (*Epiphyllum truncatum*)—see Epiphyllum.

Winter Cherry (*Physalis Alkekengi* & *Solanum capsicastrum* [*pseudocapsicum*])—see Physalis & Solanum.

Winter Clover (*Mitchella repens*)—see Mitchella.

Winter Cress (*Barbarea vulgaris*)—see Barbarea.

Winter Daffodil (*Sternbergia lutea*)—see Sternbergia.

Winter-flowering Flax (*Linum trigynum*)—see Linum.

Winter-flowering Honeysuckle (*Lonicera fragrantissima*)—see Lonicera.

Winter-flowering Jasmine (*Jasminum nudiflorum*)—see Jasminum.

Winter Gilliflower (*Hesperis matronalis*)—see Hesperis.

Winter Green (*Pyrola minor*)—see Pyrola.

Winter-green Chickweed (*Trientalis europœa*)—see Trientalis.

Winter-green Oil-plant (*Gaultheria procumbens*)—see Gaultheria.

Winter Heath (*Erica carnea*)—see Erica.

Winter Heliotrope (*Tussilago fragrans*)—see Tussilago.

Winter Hellebore (*Eranthis hyemalis*)—see Eranthis.

Winter Hyacinth (*Scilla autumnalis*)—see Scilla.

Winter Purslane (*Claytonia perfoliata*)—see Claytonia.

Winter Rocket (*Barbarea vulgaris*)—see Barbarea.

Winter Savory (*Satureia montana*)—see Satureia.

Winter Snowflake (*Leucojum hyemale*)—see Leucojum.

Winter Sweet (*Origanum heracleoticum* & *Toxicophlœa spectabilis*)—see Origanum & Toxicophlæa.

Winter Wolf's-bane (*Eranthis hyemalis*)—see Eranthis.

Wistaria (*Wistaria sinensis*)—see Wistaria.

Wistaria (Grape-flower Vine, American Kidney-bean Tree).—*Ord.* Leguminosæ. Hardy deciduous climbing flowering shrubs. *Nat.* Japan, China, N. America. *Int.* common species (*W. chinensis*), 1816; American species (*W. frutescens*), 1724. *Ht.* 3 to 20 ft. *Species* cultivated, 5; varieties several. *Flowers*, violet, purple, white, lilac; Ap. to Sept. *Soil*, deep rich sandy loam. *Position*, well drained borders against S. or S.W. walls for *W. chinensis*, *W. japonica*, & *W. multijuga*; as standards in shrubbery or on lawns in sheltered districts. *Plant*, Mar. or Ap. *Prune*, Jan. or Feb., shortening shoots not required for extending branches to within 1 in. of base. *Propagate* by layering young shoots during sum.

Witch Elm (*Ulmus montana*)—see Ulmus.

Witch Hazel (*Ulmus montana*)—see Ulmus.

Witch's Bell-flower (*Campanula rotundifolia*)—see Campanula.

Withy (*Salix viminalis*)—see Salix.

Witsenia.—*Ord.* Iridaceæ. Greenhouse evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1803. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, purple; June & July. *Compost*, two parts good peat, one part sandy loam, & little sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 50° to 60°. *An* abundance of air required in sum.; moderate amount other times. *Propagate* by seeds sown in sandy loam & peat in temp., 55° to 65° in spring; by offsets removed from parent plant, Mar. or Ap.

Wold-wolle-fibre-plant (*Pinus sylvestris* & *P. laricio*)—see Pinus.

Wolf's-bane (*Aconitum lycoctonum*)—see Aconitum.

Wolf-berry (*Symphoricarpus occidentalis*)—see Symphoricarpus.

Wolf-chop (*Mesembryanthemum lupinum*)—see Mesembryanthemum.

Wolf's-chop Fig Marigold (*Mesembryanthemum lupinum*)—see Mesembryanthemum.

Wolf's Claws (*Lycopodium clavatum*)—see Lycopodium.

Wonga Wonga Vine (*Tecoma australis*)—see Tecoma.

Wood Anemone (*Anemone nemorosa*)—see Anemone.

Wood Bells (*Scilla nutans*)—see Scilla.

Woodbine (*Lonicera periclymenum*)—see Lonicera.

Wood Fern (*Polypodium vulgare*)—see Polypodium.

Wood Forget-me-not (*Myosotis sylvatica*)—see Myosotis.

Wood Geranium (*Geranium sylvaticum*)—see Geranium.

Wood Ginger (*Anemone ranunculoides*)—see Anemone.

Wood Horsetail (*Equisetum sylvaticum*)—see Equisetum.

Wood Laurel (*Daphne laureola*)—see Daphne.

Wood Lily (*Pyrola minor*)—see Pyrola.

Wood Loosestrife (*Lysimachia nemorum*)—see Lysimachia.

Wood-nut (*Corylus avellana*)—see Corylus.

Woodruff (*Asperula odorata*)—see Asperula.

Woodsia.—*Ord.* Filices. Greenhouse & hardy ferns. Deciduous & evergreen. *Nat.* Europe (Britain), U.S. & N. America, Mexico, Japan. *Int.* (foreign species) 1816. *Ht.* 6 to 12 in. *Species* cultivated, 3 greenhouse; 6 hardy. *Fronds*, feather-shaped. CULTURE OF GREENHOUSE SPECIES: *Compost*, equal parts peat & loam, with little silver sand, & charcoal. *Position*, well drained pots or beds in shady greenhouse. *Pot* or plant, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringing* not required. *Shade* from sun. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to Sept., 50° to 60°. CULTURE OF HARDY SPECIES: *Compost*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. *All* the hardy species are suitable for greenhouse culture. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° at any time; division of plants, Mar. or Ap.

Wood Sorrel (*Oxalis acetosella*)—see Oxalis.

Wood Spurge (*Euphorbia amygdaloides*)—see Euphorbia.

Woodwardia (Chain Fern).—*Ord.* Filices. Greenhouse & hardy, evergreen & deciduous ferns. *Nat.* Japan, S. Europe, N. America. *Int.* 1774. *Ht.* 1 to 3 ft. *Species* cultivated, 3 greenhouse; 2 hardy; varieties several. *Fronds*, large, coarsely divided. CULTURE OF GREENHOUSE SPECIES: *Compost*, equal parts loam & leaf-mould or peat. *Position* in well drained pots, or on rockeries in cool greenhouse or fernery. *Water* freely in sum.; moderately other times. *Syringe* daily in sum. *W. radicans* & *W. r. cristata* suitable for suspending in baskets. CULTURE OF HARDY SPECIES: *Soil*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. *Greenhouse* species will also grow outdoors in sheltered positions, & with the protection of litter in winter. *Hardy* species are deciduous. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.; by bulbils removed from fronds & placed in small pots in temp. of 65° to 70° until roots form.

Wood Windflower (*Anemone nemorosa*)—see Anemone.

Woody-stemmed Sun-rose (*Helianthemum lignosum*)—see Helianthemum.

Woolly Clematis (*Clematis lanuginosa*)—see Clematis.

Woolly Cloak Fern (*Nothochlæna distans*)—see Nothochlæna.

Woolly-coned White Fir (*Picea amabilis*)—see Picea.

Woolly Cotoneaster (*Cotoneaster tomentosa*)—see Cotoneaster.

Woolly Foxglove (*Digitalis lanata*)—see Digitalis.

Woolly Lavender Cotton (*Santolina incana*)—see Santolina.

Woolly-leaved Hydrangea (*Hydrangea heteromalla*)—see Hydrangea.

Woolly-leaved Sun-rose (*Helianthemum tomentosum*)—see Helianthemum.

Woolly Milfoil (*Achillea tomentosa*)—see Achillea.

Woolly White Alder (*Clethra tomentosa*)—see Clethra.

Woolly Woundwort (*Stachys lanata*)—see Stachys.

Woolly Yarrow (*Achillea tomentosa*)—see Achillea.

Worm Grass (*Sedum album*)—see Sedum.

Worm-seed (*Artemisia maritima*)—see Artemisia.

Wormwood (*Artemisia absinthium*)—see Artemisia.

Wreath Lily (*Myrsiphyllum asparagoides*)—see Myrsiphyllum.

Wulfenia.—*Ord.* Scrophulariaceæ. Hardy perennial herbs. *Nat.* Himalayas, Carinthian Alps. *Int.* 1817. *Ht.* 9 to 18 in. *Species* cultivated, 2. *Flowers*, lilac, blue; July. *Soil*, light rich sandy loam. *Position*, partially shady rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown in light sandy soil in shallow boxes in cold frame in Mar. or Ap., transplanting seedlings when large enough to handle on to rockery; by division of plants in Mar. or Ap.

Wulfen's Buckthorn (*Rhamnus Wulfeni*)—see Rhamnus.

Wych Elm (*Ulmus montana*)—see Ulmus.

Wych Hazel (*Ulmus montana*)—see Ulmus.

Xanthoceras.—*Ord.* Sapindaceæ. Hardy deciduous flowering tree. *Nat.* China. *Int.* 1870. *Ht.* 5 to 15 ft. *Species* cultivated, 1. *Flowers*, white, streaked with blood-red; sum. *Leaves*, feather shaped, *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown in light soil outdoors in autn. or spring.

Xanthorhiza (American Yellow root shrub).—*Ord.* Ranunculaceæ. Hardy deciduous shrub. *Nat.* N. America. *Int.* 1766. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, purple, green; Feb. *Soil*, equal parts sandy loam & peat. *Position*, moist partially shady border. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by suckers removed from parent plants, Oct. or Ap.

Xanthosoma.—*Ord.* Aroidaceæ. Stove perennial herbs. Orn. foliage. *Nat.* Brazil, Venezuela, Mexico, S. America, New Grenada. *Int.* 1710. *Ht.* 1 to 5 ft. *Species* cultivated, about 12. *Leaves*, arrow-head shaped, green or variegated. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure, & silver sand. *Position*, well drained pots in shade, *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately, Feb. to Ap. & Sept. to Nov.; freely, Ap. to Sept.; keep quite dry, Nov. to Feb. *Temp.*, Feb to Sept., 70° to 80°; Sept. to Nov., 65° to 75°; Nov. to Feb., 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Xeranthemum (Everlastings, Immortelle, Annual Everlasting).—*Ord.* Compositæ. Hardy annuals. *Nat.* S. Europe. *Int.* 1570. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, white, purple, violet; single & double; sum.; suitable for winter decoration. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds in light soil in Mar., in temp. 55° to 65°, planting out in June, or in open ground end of Ap. *Gather* flowers for winter decoration directly they are fully expanded.

Xerophyllum (Turkey's Beard).—*Ord.* Liliaceæ. Hardy annual aquatic herb. *Nat.* N. America. *Int.* 1765. *Species* cultivated, 1. *Ht.* 12 in. *Flowers*, white; May. *Soil*, moist sandy peat. *Position*, boggy gardens or margins of ponds or lakes. *Plant*, Mar. or Ap. *Propagate* by seeds sown in moist peaty soil in Ap. where required to grow, or by division of roots in Mar. or Ap.

Xylobium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Central America, Venezuela, Brazil. *Int.* 1826. *Ht.* 9 to 12 in. *Species* cultivated, 6. *Flowers*, yellow, purplish, brown, flesh; highly scented; various periods. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans, or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 50°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting-room or cool conservatory when in flower. *Propagate* by division of pseudo bulbs immediately after flowering.

Xylophylla.—*Ord.* Euphorbiaceæ. Stove evergreen flowering shrubs. *Nat.* Jamaica. *Int.* 1789. *Ht.* 2 ft. *Species* cultivated, 2. *Flowers*, red, white; July to Sept. *Compost*, equal parts sandy loam & fibry peat, one part of equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb or

Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* morning & evening, Ap. to Sept. *Prune* into shape, Jan. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell glass in temp. 75° spring or sum.

Yacca-wood Tree (*Podocarpus coriacea*)—see Podocarpus.

Yam (*Dioscorea sativa*)—see Dioscorea.

Yam Bean (*Dolichos tuberosus*)—see Dolichos.

Yarrow-leaved Starwort (*Aster ptarmicoides*)—see Aster.

Year Bean (*Phaseolus vulgaris*)—see Phaseolus.

Yellow Adder's Tongue (*Erythronium americanum*)—see Erythronium.

Yellow Alpine Auricula (*Primula auricula*)—see Primula.

Yellow American Lily (*Lilium canadense*)—see Lilium.

Yellow-and-Crimson Chrysanthemum (*Chrysanthemum Burridgianum*)—see Chrysanthemum.

Yellow Arctic Poppy (*Papaver nudicaule*)—see Papaver.

Yellow Arizona Pine-tree (*Pinus arizonica*)—see Pinus.

Yellow Arum Lily (*Richardia Pentlandii*)—see Richardia.

Yellow Azorean Jasmine (*Jasminum odoratissimum*)—see Jasminum.

Yellow-banded Iris (*Iris ochroleuca*)—see Iris.

Yellow-barked Oak (*Quercus tinctoria*)—see Quercus.

Yellow-berried Buckthorn (*Rhamnus infectorius*)—see Rhamnus.

Yellow-berried Holly (*Ilex aquifolium fructu-luteo*)—see Ilex.

Yellow-berried Privet (*Ligustrum vulgare xanthocarpum*)—see Ligustrum.

Yellow-berried Roman Ivy (*Hedera helix chrysocarpa*)—see Hedera.

Yellow-berried Yew-tree (*Taxus baccata fructu-luteo*)—see Taxus.

Yellow Cedar (*Thuiopsis borealis*)—see Thuiopsis.

Yellow Chamomile (*Anthemis tinctoria*)—see Anthemis.

Yellow Coneflower (*Rudbeckia Newmanni*)—see Rudbeckia.

Yellow Cypress (*Thuiopsis borealis* & *Thuia Lobbi*)—see Thuiopsis & Thuia.

Yellow Day Lily (*Hemerocallis flava*)—see Hemerocallis.

Yellow Everlasting (*Helichrysum orientale* & *H. arenarium*)—see Helichrysum.

Yellow Flag (*Iris pseudo-acorus*)—see Iris.

Yellow Flower de Luce (*Iris pseudo-acorus*)—see Iris.

Yellow-flowered Asphodel (*Asphodelus luteus*)—see Asphodelus.

Yellow-flowered Bitter Vetch (*Orobus aurantius*)—see Orobus.

Yellow-flowered Black Currant (*Ribes flavum*)—see Ribes.

Yellow-flowered Brisbane Laurel (*Pittosporum revolutum*)—see Pittosporum.

Yellow-flowered Buck-eye (*Pavia flava*)—see Pavia.

Yellow-flowered Butterwort (*Pinguicula lutea*)—see Pinguicula.

Yellow-flowered Centaury (*Chlora perfoliata*)—see Chlora.

Yellow-flowered Currant (*Ribes aureum*)—see Ribes.

Yellow-flowered Dwarf Saxifrage (*Saxifraga sancta*)—see Saxifraga.

Yellow-flowered Fumitory (*Corydalis lutea*)—see Corydalis.

Yellow-flowered Garlic (*Allium flavum*)—see Allium.

Yellow-flowered Gentian (*Gentiana lutea*)—see Gentiana.

Yellow-flowered Horse Chestnut (*Pavia flava*)—see Pavia.

Yellow-flowered Jasmine (*Jasminum fruticans*)—see Jasminum.

Yellow-flowered Lobelia (*Lobelia lutea*)—see Lobelia.

Yellow-flowered Mountain Avens (*Geum montanum*)—see Geum.

Yellow-flowered Purslane (*Portulaca aurea*)—see Portulaca.

Yellow-flowered Skull-cap (*Scutellaria orientalis*)—see Scutellaria.

Yellow-flowered Whitlow-grass (*Draba aizoides*)—see Draba.

Yellow Foxglove (*Digitalis lutea*)—see Digitalis.

Yellow-fringed Orchis (*Habenaria ciliaris*)—see Habenaria.

Yellow-fruited Egg-plant (*Solanum melongena fructu-lutea*)—see Solanum.

Yellow-fruited Thorn (*Cratægus flava*)—see Cratægus.

Yellow Garden Hawk-weed (*Tolpis barbata*)—see Tolpis.

Yellow Gilliflower (*Cheiranthus cheiri*)—see Cheiranthus.

Yellow Grape-Hyacinth (*Muscari luteum*)—see Muscari.

Yellow Grass (*Narthecium ossifragum*)—see Narthecium.

Yellow Herbaceous Flax (*Linum flavum*)—see Linum.

Yellow Honeysuckle (*Lonicera flava*)—see Lonicera.

Yellow Iris (*Iris pseudo-acorus*)—see Iris.

Yellowish-flowered Wood-sorrel (*Oxalis luteola*)—see Oxalis.

Yellowish Iris (*Iris flavescens*)—see Iris.

Yellowish-leaved Saxifrage (*Saxifraga tenella*)—see Saxifraga.

Yellowish Primrose (*Primula luteola*)—see Primula.

Yellowish Snowdrop (*Galanthus lutescens*)—see Galanthus.

Yellowish White-fruited Bullace (*Prunus insititia fructu-lutea alba*)—see Prunus.

Yellowish-white Gentian (*Gentiana ochroleuca*)—see Gentiana.

Yellow Larkspur (*Tropæolum polyphyllum* & other yellow-flowered species)—see Tropæolum.

Yellow Long-spurred Columbine (*Aquilegia leptoceras lutea*)—see Aquilegia.

Yellow Loose-strife (*Lysimachia vulgaris*)—see Lysimachia.

Yellow Mariposa Lily (*Calochortus luteus*)—see Calochortus.

Yellow Monkey Flower (*Mimulus luteus*)—see Mimulus.

Yellow Mountain Saxifrage (*Saxifraga aizoides*)—see Saxifraga.

Yellow Orchis (*Ophrys lutea*)—see Ophrys.

Yellow Ox-eye Daisy (*Bupthalmum salicifolium*)—see Bupthalmum.

Yellow Pimpernel (*Lysimachia nemorum*)—see Lysimachia.

Yellow Pine-tree (*Pinus australis* & *P. ponderosa*)—see Pinus.

Yellow Pond Lily (*Nuphar advena*)—see Nuphar.

Yellow Pretty-grass (*Calochortus luteus*)—see Calochortus.

Yellow Puccoon (*Hydrastis canadensis*)—see Hydrastis

Yellow Rock Madwort (*Alyssum saxatile*)—see Alyssum.

Yellow Rush-leaved Daffodil (*Narcissus gracilis*)—see Narcissus

Yellow Sacred Bean (*Nelumbium luteum*)—see Nelumbium.

Yellow Side-saddle-flower (*Sarracenia flava*)—see Sarracenia.

Yellow Star-flower (*Sternbergia lutea*)—see Sternbergia.

Yellow Sweet Sultan (*Centaurea suaveolens*)—see Centaurea.

Yellow Thistle (*Argemone mexicana*)—see Argemone.

Yellow Toad-flax (*Linaria vulgaris*)—see Linaria.

Yellow Variegated Sycamore (*Acer pseudo-platanus variegatum* —see Acer.

Yellow Water Bean (*Nelumbium luteum*)—see Nelumbium.

Yellow Water Lily (*Nuphar lutea*)—see Nuphar.

Yellow Wood Anemone (*Anemone ranunculoides*)—see Anemone.

Yellow-wort (*Chlora perfoliata*)—see Chlora.

Yevering Bells (*Pyrola secunda*)—see Pyrola.

Yew-tree (*Taxus baccata*)—see Taxus.

Yoke Elm (*Carpinus betulus*)—see Carpinus.

Yorkshire Sanicle (*Pinguicula vulgaris*)—see Pinguicula.

Young's Evening Primrose (*Œnothera Youngii*)—see Œnothera.

Youth-and-Old-Age (*Zinnia elegans*)—see Zinnia.

Youth-wort (*Drosera rotundifolia*)—see Drosera.

Yucca (Adam's Needle, Mound Lily, Spanish Bayonet, Bear's Grass). *Ord.* Liliaceæ. Greenhouse & hardy evergreen perennials. *Nat.* United States, Mexico, N. America. *Int.* 1596. *Ht.* 1 to 10 ft. *Species* cultivated, 9 hardy; about 12 greenhouse; varieties numerous. *Flowers*, white; sum. CULTURE OF HARDY SPECIES: *Soil*, ordinary light well drained. *Position*, sunny banks, mounds, rockeries, raised borders, or singly lawns. *Plant*, Oct. or Ap. *Protect* in severe weather with mats. CULTURE OF GREENHOUSE SPECIES: *Compost*, two parts sandy loam, one part leaf-mould & little sand. *Position*, light greenhouse, Sept. to June; sunny position outdoors, pots plunged to rims in soil, June to Sept.; or may be grown entirely in greenhouse. *Pot*, Mar. *Water* freely, Ap. to Sept.; very little afterwards. *Repotting* only necessary when root-bound. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Propagate* by division in Mar., offsets or suckers in Mar. or Ap.; cuttings of roots inserted in sand in temp. 55° in spring.

Yulan Magnolia (*Magnolia conspicua*)—see Magnolia.

Zakkoum Oil-plant (*Elæagnus hortensis angustifolia*)—see Elæagnus.

Zamia (Jamaica Sago Tree).—*Ord.* Cycadaceæ. Stove or greenhouse orn. foliage plants. *Nat.* Tropical America, S. Africa, W. Indies. *Int.* 1691. *Ht.* 2 to 6 ft. *Species* cultivated, about 25. *Leaves*, feather shaped. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct. *Syringe* daily, Ap. to Sept. *Moist* atmosphere essential. *Shade* from sun. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by seeds sown in light soil in temp. 75° to 85°, spring; by offsets removed & placed in small pots under bell-glass in propagator in spring; by division, Feb. or Mar.

Zante-wood (*Rhus cotinus*)—see Rhus.

Zanthoxylum (Prickly Ash, Toothache Tree).—*Ord.* Rutaceæ. Hardy deciduous & stove evergreen flowering trees. *Nat.* N. America, E. & W. Indies, Japan, Penang. *Int.* 1773. *Ht.* 4 to 50 ft. *Species* cultivated, 4 hardy; about 14 stove. *Flowers*, white; Mar. to Sept. CULTURE OF HARDY SPECIES (*Z. fraxinifolium*, etc.): *Soil*, ordinary. *Position*, sunny sheltered borders. *Plant*, Oct. to Mar. CULTURE OF STOVE SPECIES: *Compost*, two parts sandy loam, one part leaf-mould, little sand. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* stove species by cuttings inserted in sand under bell-glass in Ap. or May in temp. 70° to 80°. Hardy species by cuttings of roots or firm shoots inserted in sandy soil under handlight outdoors, Sept. or Oct.

Zanzibar Aloe (*Aloe socotrina*)—see Aloe.

Zanzibar Balsam (*Impatiens Sultani*)—see Impatiens.

Zanzibar Water Lily (*Nymphæa stellata zanzibariensis*)—see Nymphæa.

Zauschneria (Californian Fuchsia).—*Ord.* Onagraceæ. Half-hardy shrubby perennial. *Nat.* California, Mexico. *Int.* 1847. *Ht.* 9 to 12 in. *Species* cultivated, 1; variety 1. *Flowers*, red; June to Oct. *Soil*, sandy loam.

Position, sunny well drained rockery or old wall. *Plant*, Mar. or Ap. *Propagate* by seeds sown in light sandy soil, lightly covering with fine mould, place in temp. 55° to 65°, Mar., transplanting seedlings outdoors end of May or beginning of June; by cuttings of young side shoots inserted in pots of sandy soil under bell-glass or hand-light in shady position outdoors in Sept., protecting cuttings in heated greenhouse until following Ap., then planting out; by division of old plants in Ap.

Zea (Maize, Indian Corn).—*Ord.* Graminaceæ. Half-hardy annual. Orn. foliage. *Nat.* America. *Int.* 1562. *Ht.* 2 to 3 ft. *Species* cultivated, 1; varieties several. *Leaves*, narrow, grass-like; green or variegated with white. *Soil*, ordinary. *Sow* seeds ½ in. deep & 1 in. apart in light rich soil in well drained pots or boxes in temp. 55° to 65°, Feb. or Mar.; transfer seedlings when 2 in. high singly into 2-in. pots, then into 4½-in. pots. *Place* in cold frame to harden in May & plant outdoors in June. *May* also be grown in pots in compost of equal parts good loamy soil & leaf-mould, & little sand. *Water* freely.

Zebra Plant (*Maranta zebrina*)—see Maranta.

Zebra-striped Dragon-plant (*Dracæna Goldeana*)—see Dracæna.

Zebra-striped Rush (*Eulalia japonica zebrina*)—see Eulalia.

Zebrina.—*Ord.* Commelinaceæ. Greenhouse herbaceous trailing perennial. Orn. foliage. *Nat.* Mexico. *Int.* 1849. *Species* cultivated, 1. *Flowers*, purple; sum. *Leaves*, oval oblong; dark green, striped white above, purplish beneath. Stems creeping. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, in pots or baskets suspended from roof, or in beds under stage or on rockeries. *Pot* or plant, Jan. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Shade* from strong sunshine. *Temp.*, 40° to 50°, Oct. to Ap.; 55° to 65°, Ap. to Oct. *May* also be grown in windows as a pot or basket plant. *Protect* from frost in winter. *Propagate* by cuttings of young shoots inserted in light soil under a bell-glass in above temp., Mar. to Oct.

Zenobia.—*Ord.* Ericaceæ. Hardy evergreen flowering shrub. *Nat.* N. America. *Int.* 1800. *Ht.* 18 in. to 2 ft. *Flowers*, white; sum. *Soil*, peat or sandy loam. *Position*, moist sheltered borders. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by layering in Sept. or Oct.

Zephyranthes (Zephyr Flower, Atamasco Lily, Peruvian Swamp Lily, Flower of the West Wind).—*Ord.* Amaryllidaceæ. Hardy deciduous bulbous flowering plants. *Nat.* Mexico, Buenos Ayres, Peru, Virginia, Brazil, Jamaica. *Int.* 1629. *Ht.* 6 to 12 in. *Species* cultivated, about 25. *Flowers*, white, red, yellow, rose, pink; Dec. to June. OUTDOOR CULTURE: *Soil*, light sandy loam. *Position*, well drained sunny beds, borders, or rockeries. *Plant*, Aug. to Nov., placing bulbs 3 to 4 in. deep & 4 in. apart. *Protect* in winter by a layer of cinder ashes. *Lift* & replant only when bulbs show signs of deterioration. POT CULTURE: *Compost*, two parts loam, one part peat, leaf-mould & silver sand. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing one bulb 2 in. deep in a 5 or 6 in. pot. *Water* very little till growth begins, then freely. *Withhold* water when flowers fade & keep soil quite dry till potting time. *Propagate* by offsets planted & treated as advised for large bulbs, Aug. to Nov.

Zephyr-flower (*Zephyranthes candida*)—see Zephyranthes.

Zeyher's Mock Orange (*Philadelphus Zeyheri*)—see Philadelphus.

Zig-zag Cliff-brake Fern (*Pellæa flexuosa*)—see Pellæa.

Zingiber (Ginger).—*Ord.* Scitaminaceæ. Stove perennial. *Roots* furnishing the ginger of commerce. *Nat.* East Indies. *Int.* 1605. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, red; July. *Compost*, equal parts loam, peat, & sand. *Position*, pots in shady moist part of stove. *Pot*, Feb. *Water* copiously, Mar. to Oct.; keep nearly dry, Oct. to Mar. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. *Stems* die down in autn. *Propagate* by division of the rhizomes in Feb.

Zinnia (Youth-and-old-age).—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Mexico. *Int.* 1770. *Ht.* 1 to 2 ft. *Species* cultivated, 6; varieties numerous. *Flowers*, crimson, rose, white, orange, yellow, purple; sum. *Soil*, deep loamy, liberally enriched with decayed manure. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{16}$ in. deep in light soil in temp. 55° early in Ap. *Transplant* seedlings when third leaf forms 2 in. apart in shallow boxes filled with light mould. *Place* box near the glass in temp. 55° until seedlings are established, then remove to a cooler house, and if possible plant out 4 in. apart in good rich soil in cold frame early in May. *Shade* from sun., keep moist & gradually expose to air end of month. *Plant* out 8 to 12 in. apart second week in June. *Sow* also outdoors middle of May. *Prepare* bed of rich soil in sunny position, sow three or four seeds at intervals of 12 in., & thin seedlings to one at each place when third leaf forms. *Mulch* all zinnias with decayed manure after planting. *Water* liberally in dry weather. *Apply* stimulants when the plants commence to flower. *On dry soils* take out mould to depth of 12 in., put 3 in. of decayed manure in, then replace former.

Zoy's Bell-flower (*Campanula Zoysi*)—see Campanula.

Zygopetalum.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Ecuador, Brazil, Guiana, Columbia, Central America, New Grenada, West Indies. *Int.* 1825. *Ht.* 6 to 18 in. *Species* cultivated, 75; varieties several. *Flowers*, white, blue, purple, brown, yellow, green, chocolate, crimson; autn. & winter. *Compost*, equal parts rough fibrous peat & sphagnum moss & charcoal. *Position*, well drained pots or on blocks of wood (roots being covered with sphagnum moss), or in baskets suspended from roof. *Pot*, etc., Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec. Give very little, Dec. to Ap. *Shade* from sun in sum. *Moist* atmosphere essential. *Temp.*, Mar. to June, 58° to 65°; Dec. to Mar., 53° to 60°. *Propagate* by division, any time.

ADDENDA.

Actinotus (Flannel Flower).—*Ord.* Umbelliferæ. *Nat.* Australia *Int.*, 1821. *Species* cultivated, 1 (*A. helianthi*). *Ht.*, 2 ft. *Flowers*, white. June. INDOOR CULTURE: *Compost*, equal parts loam & peat, with a liberal addition of silver sand. *Position*, sunny part of cool greenhouse. *Pot*, Mar. or Ap. *Water* freely Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar., 45° to 55°. OUTDOOR CULTURE: *Soil*, ordinary. *Position*, sunny. *Sow* seeds in temp. of 65° in Mar. or Ap. *Harden* off seedlings gradually, and plant out at the end of May. *Propagate* by seeds sown in a temp. of 65° in spring; or by division at the roots at potting time.

Adenanthera (Barbadoes Pride).—*Ord.* Leguminosæ. Stove evergreen flowering shrubs. *Nat.* India. *Int.* 1759. *Species* culivated, 1. *Ht.* 5ft. *Flowers*, white & yellow; spring. *Compost*, equal parts peat & loam, with a little silver sand. *Position*, well drained pots in light part of stove. *Pot*, Mar. *Water* freely in spring & sum., & moderately in autumn & winter. *Temp.* Mar. to Oct. 65° to 85°; Oct. to Mar. 55° to 65. *Propagate* by cuttings of side shoots removed with a base of old wood & inserted in sand under bell glass in spring.

Æranthus.—*Ord.* Orchidaceæ. Stove evergreen plants. *Nat.* Madagascar, Comoro Islands. *Int.* 1823. *Ht.* 3 to 12 in. *Species* cultivated 4. *Flowers*, white, yellow & green; sum. *Compost*, equal parts peat potsherds, charcoal & sphagnum moss. *Position*, suspended pots or teakwood baskets. *Repot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.* Sept. to Mar. 60° to 55°; Mar. to Sept. 70° to 80°. *Propagate* by division of plants in Mar.

Albuca.—*Ord.* Liliaceæ. Half-hardy bulbous plants. *Nat.* S. Africa. *First introduced* 1774. *Species* cultivated, 29. *Flowers*, white, yellow, green; sum. *Ht.* 6 in. to 2 ft. *Compost*, two parts loam, one part of equal proportions of peat, leaf-mould & silver sand. *Position*, cool greenhouse. *Pot* in Nov., placing five bulbs 3 in. deep in a 4½ in. pot. Cover pot with cocoanut-fibre refuse until growth begins, then expose to light. *Water* freely from time bulbs begin to grow until flowers fade, after which keep dry till Nov. *Propagate* by offsets or seeds.

Alligator Pear (*Persea gratissima*)—see Persea.

Althæa. (Hollyhock).—*Ord.* Malvaceæ. Hardy perennial. *Nat.* China. *Int.* 1573. *Ht.* 8 to 10 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, various; sum. *Soil*, rich loam, or good ordinary mould, not too light. Trench the soil three spits deep in Oct., & work in plenty of decayed manure between second & third spits. *Plant* singly 3 ft. apart each way or in groups of three, 12 in. from plant to plant, 4 ft. apart, in Ap. *Mulch* surface of soil to width of 18 in. from stem to stem. *Support* the stems with stakes standing 6 ft. out of ground. *Water* copiously in dry weather. *Apply* liquid manure once a week from May until blooms expand. *Remove* flowers directly they fade. *Cut* off tops of spikes where fine blooms are required for exhibition as soon as lower blooms show signs of expanding. Offshoots should be removed from base of plants in June if fine spikes are desired. *Young plants* yield finest blooms for exhibition. *Cut* flower stems down to within 6 in. of soil after flowering. *Manures* (1) Beeson's manure applied at rate of a handful to each plant in May, June, July, & Aug. (2) ½ oz. nitrate of soda, ¼ oz. each of superphosphate, kainit & sulphate of ammonia to two gallons of water, applied to the roots at intervals of a month from May to Sept. (Griffiths) (3) Liquid drainings or solutions of animal manures, applied in a diluted state occasionally during sum. *Propagate* by seeds sown in drills 1 in. deep & 12 in. apart on a south border in June. *Thin* seedlings to 6 in. apart in July. *Lift* in Sept., and place in pots in a compost of two parts loam & one part peat & leaf-mould; put in cold frame for the winter, or plant in similar soil in frame. On warm soils seedlings may be transplanted direct into flowering positions in Sept. *Sow* seeds also in good soil in temp. 55° to 65° in Jan. or Feb., grow in pots, harden off in Ap., and plant out in May. Increased also by cuttings of young shoots growing out of base of flower stems inserted singly in small pots plunged in a gentle hotbed in spring. Likewise by cuttings of young shoots consisting of two joints with lower leaves removed, inserted in small pots placed in a close frame in Aug. Lastly, by the division of the old plants after flowering.

Amasonia.—*Ord.* Verbenaceæ. Stove evergreen flowering plant. *Nat.* British Guiana and Brazil. *Ht.* 2 ft. *Species* cultivated, 2. *Infloresence*, red bracts, red calyx, and yellow corolla: autumn. *Compost*, equal parts loam and leaf-mould, little silver sand. *Pot*, March. *Position*, in small pots near glass, well exposed to light; shade in summer. *Water* freely in spring and summer; moderately other times. *Temp.*, March to September, 75° to 85°; September to March, 58° to 65°. *Propagate* by division of the plants in March.

Amorpha (Bastard Indigo.)—*Ord.* Leguminosæ. Hardy deciduous shrubs. *Nat.* N. America. *Ht.* 2 to 9 ft. *Species* cultivated, 6. *Flowers*, blue and purple: sum. *Soil*, ordinary. *Position*, in the mixed shrubbery. *Plant*, October to February. *Prune* after flowering, thinning shoots that have borne blossoms. *Propagate* by cuttings in autumn; layering in summer; suckers in winter.

Amorphophallus.—*Ord.* Aroideæ. Stove tuberous-rooted perennials. *Nat.* Southern Asia and the Indian Archipelago. *Flowers* with purple or white spathes and brown spadices; fœtid; appearing before leaves. *Leaves* more or less ornamental. *Ht.* 1 to 5 ft. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots in shade. *Pot* moderately firm in pots just large enough to take tubers in Feb. to Mar., transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov.; freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80°; Sept. to Nov. 65° to 75°; Nov. to Feb. 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Anacampseros.—*Ord.* Portulaceæ. Greenhouse succulent-leaved plants. *Nat.* S. Africa. *Ht.* 9 to 18 in. *Species* cultivated, 7. *Flowers*, pink; sum. *Compost*, two parts sandy loam, one part of equal proportions of old mortar, small brick rubble and sand. *Position*, in not too large pots on shelves near the glass; no shade. *Water* moderately in spring and summer; keep nearly dry in autumn and winter. Dry atmosphere needed. *Repot* in March. *Temp.*, 45° to 50° in winter; 50° to 60° in summer. *Propagate* by seeds sown in a mixture of fine rubble and sandy loam, in heat, in pring; by cuttings, exposed to the air for a few days after removal from he plant, then inserted in fine sand in a gentle heat.

Andropogon (Lemon Grass),—*Ord.* Gramineæ. Stove and hardy ornamental flowering grasses. *Nat.* India & America. *First* introduced 1786. *Ht.* 2 ft. to 6 ft. *Species* cultivated, 1 stove, 4 hardy. *Foliage* of *A. Schœnanthus* (Lemon Grass) fragrant. CULTURE OF STOVE SPECIES (*A. Schœnanthus*): *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in stove. *Pot*, Mar. *Water* freely Mar. to Oct.; moderately afterwards. *Temp.* Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. CULTURE OF HARDY SPECIES (*A. halepensis*, *A. squarrosa*, & *A. striatus*); *Soil*, ordinary, light and dry. *Position*, sunny border. *Plant*, Oct., Mar., and Ap. Apply liquid manure occasionally in sun. *Propagate* by division.

Angelonia.—*Ord.* Scrophularineæ. Stove herbaceous perennials. *Nat.* Brazil, Mexico, and Pernambuco. *Int.* 1818. *Species* cultivated, 7. *Ht.*, 1 to 2 ft. *Flowers*, violet, purple, and blue; May to Aug. *Compost*, equal parts of loam, peat, leaf-mould, and a little sand. *Position*, pots in sunny parts of stove. *Pot* Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.* Mar. to Oct, 65° to 75°; afterwards 55° to 60°. *Propagate* by division of roots in Mar.; cuttings of young shoots inserted in sand under bell glass, in temp. 75° in Ap.

Anigozanthus.—*Ord.* Hæmodoraceæ. Greenhouse herbaceous perennials. *Nat.* Australia. *Ht.* 2 to 3 ft. *Species* cultivated, 8. *Flowers*, crimson, scarlet, green, yellow and purple; woolly in texture; spring. *Compost*, one part loam, two parts peat, and one part silver sand. *Pot* in Mar. *Position*, pots in cool greenhouse fully exposed to light. *Water* freely in spring and summer; moderately in autumn and winter. *Temp.*, 40° to 50° in winter; no heat at other times. *Propagate* by division of the roots in spring.

Anona (Custard Apple or Sweet Sop).—*Ord.* Anonaceæ. Stove evergreen shrubs. *Nat.* Brazil, East & West Indies, Guiana, Mexico & Peru. *Int.* 1690. *Species* cultivated, 18. *Ht.* 4 to 20 ft. *Flowers*, yellow, white, green, brown, and red; sum. *Leaves* fragrant. *Fruit* of *A. muricata*, *A. reticulata* & *A. squamosa* edible. *Compost*, two parts loam, one part peat & a little silver sand. *Pot*, Mar. or Ap. *Position*, light & sunny. *Water* freely Mar. to Oct., moderately afterwards. *Syringe* daily Ap. to Sept. *Shade* from bright sunshine. *Temp.*, Mar. to Oct. 65° to 85°; Oct. to Mar. 55° to 65°. *Propagate* by seeds in spring, or by cuttings of firm shoots in moist sand under bell glass in temp. 75° in sum.

Apera (Pheasant's Tail Grass).—*Ord.* Gramineæ. *Nat.* New Zealand. *Int.*, 1882. *Species* cultivated, 1 (*A. arundinacea*). *Ht.*, 2 to 3 ft. Inflorescence borne in graceful panicles. Stem slender and drooping. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well-drained pots in hanging baskets in sunny greenhouse. Pot or plant in spring. *Water* freely during spring and summer; moderately autumn and winter. Pretty plant for front row of staging in greenhouse. *Propagate* by seed sown in a temp. of 55° to 65° in spring; or by division of the roots or tufts at potting time.

Aphanostephus.—*Ord.* Compositæ. Half-hardy annual. *Nat.* Arkansas. *Int.*, 1838. *Species* cultivated, 1 (*A. Arkansanum*). *Ht.*, 1 to 2 ft. *Flowers*, white, gold, & rose; summer. *Soil*, light, ordinary. *Position*, sunny, well-drained borders. *Sow* seeds in a temp. of 55° to 65° in Mar. Transplant seedlings 1 or 2 in. apart in boxes. Gradually harden off, and plant outdoors the end of May.

Aplopappus.—*Ord.* Compositæ. Hardy perennials. *Nat.* Rocky Mountains. *Ht.* 18 ins. *Species* cultivated, 1. *Flowers*, yellow; Aug. *Soil*, ordinary sandy. *Position*, sunny border. *Plant*, Mar. or Ap. *Protect* in severe winter. *Propagate* by seeds sown in a temp. of 65° in spring, hardening seedlings off in cold frame; also by division in Mar. or Ap.

Apocynum (Dog's Bane).—*Ord.* Apocynaceæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1683. *Ht.* 1 to 2 ft. *Flowers*, red and yellow; summer. *Species* cultivated, 5. *Culture*, ordinary soil and a sunny position. *Plant* in Nov. or March. *Propagate* by seeds sown outdoors in April; division of the roots in March.

Arachis (Monkey Nut, Earth Nut, & Ground Nut).—*Ord.* Leguminosæ. Stove annual. *Ht.* 1 ft. *Species* cultivated, 1 (*A. hypogæa*). *Flowers*, yellow; May. After flowering the seed pod is gradually forced into the soil to ripen its seeds, which are edible. *Compost*, loam, leaf-mould & sand. *Sow* seeds in a temp. of 75° to 85° in spring; plant seedlings in small pots and grow in a light position. *Water* moderately. *Temp.* 75° to 85°

Arauja.—*Ord.* Asclepiadaceæ. Stove flowering evergreen climbers. *Nat.* Brazil. *First introduced* 1837. *Species* cultivated, 2 (*A. grandiflora* & *A. graveolens*). *Ht.* 10 ft. to 15 ft. *Flowers*, white, yellow; sum. *Compost*, equal parts peat, loam, & sand. *Position*, pots or beds; shoots trained up roof or round wire trellis. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept.; moderately afterwards. *Syringe* twice daily Mar. to Aug. *Prune* shoots moderately annually in Jan. *Apply* liquid manure occasionally during May, June, & July. *Temp.* Mar. to Oct., 65° to 75; Oct. to Mar., 55° to 65°. *Propagate* by cuttings of young shoots 4 in. long, inserted in sandy soil under propagating glass in temp. 75° to 80° in spring.

Arctotis.—*Ord.* Compositæ. Half-hardy herbaceous perennials, adapted for cool greenhouse and outdoor culture. *Ht.* 4 in. to 18 in. *Species* cultivated, 4. *Flowers*, red, orange & yellow; sum. OUTDOOR CULTURE: *Soil*, loamy, enriched with leaf-mould. *Position*, preferably sunny, but will do in shade. *Plant* in April or May. *Protect* by handlights or frames in winter. Best raised from seed or cuttings annually, and grown outside in summer only. INDOOR CULTURE: *Compost*, equal parts of loam & leaf-mould with a little sand. *Position*, well drained pots in sunny part of greenhouse. *Water* liberally from Mar. to Oct., moderately at other seasons. *Propagate* by seeds sown in a temp. of 55° to 65° in Mar. Avoid a too damp atmosphere. Also by cuttings of side shoots inserted in pots of sandy soil in a cold frame in early summer.

Arisæma (Dragon Root, Green Dragon).—*Ord.* Aroideæ. Half hardy and hardy tuberous-rooted perennials. *Nat.* India, N. America, Japan. *First introduced*, 1759. *Ht.* 6 in. to 2 ft. *Flowers*, green, white, and purple, arum-like in shape; spring and sum. CULTURE OF HARDY SPECIES (*A. dracontium and A. triphyllum*): *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Top-dress* with decayed manure after new growth begins. *Apply* liquid manure occasionally in sum. CULTURE OF GREENHOUSE SPECIES (*A. ringens*, *A. serotino*); *Compost*, equal parts peat, leaf-mould, loam, and sand. *Position*, cool greenhouse. *Pot*. Mar. *Water* freely. Mar. to Oct.; keep dry afterwards. *Winter temp.*, 40° to 50°. *Propagate* by division of tubers.

Aristea.—*Ord.* Irideæ. Greenhouse herbaceous perennials. *Nat.* Cape of Good Hope. *Int.* 1759. *Ht.* 6 in. to 3 ft. *Flowers*, blue; spring. *Species* cultivated, 3. *Culture*, grow in pots in a compost of three parts peat, one part loam, and plenty of silver sand. *Water* freely in summer, moderately in spring and autumn, and little in winter. *Temp.*, 45 to 50° in winter; 55 to 60° at other periods. *Propagate* by seeds sown in sandy peat in March; division of roots in April.

Arthropodium.—*Ord.* Liliaceæ. Greenhouse herbaceous perennials *Nat.* New Zealand & Australia. *First int.*, 1800. *Ht.*, 1½ to 3 ft. *Species* cultivated, 5. *Flowers*, white; summer. *Compost*, two parts sandy loam, one part peat, & a liberal quantity of silver sand. *Position*, well-drained pots in sunny part of greenhouse. *Pot*, Mar. or Ap. *Water* freely spring & summer; moderately autumn and winter. *Temp.*, Oct. to Mar., 40° to 45°; Mar. to Oct., 55° to 65°. *Propagate* by seeds sown in a mixture of equal parts sandy loam, peat, leaf mould, & sand, in a temp. of 55° to 65° in spring; also by off-sets or suckers removed in spring.

Asparagus (Asparagus officinalis).—*Ord* Liliaceæ. Hardy deciduous perennial. *Nat.* Maritime sands of S. & W. England, Ireland, Central & Western Asia, Mediterranean shores & western coasts of Europe. First cultivated in England in sixteenth century. *Ht.* 4 to 5 ft *Species* cultivated, 1; varieties—Connover's Colossal, Giant Argenteuil, and Palmetto. *Flowers*, greenish white; Aug. *Berries*, red; Sept. & Oct. OUTDOOR CULTURE: *Soil*, deep rich sandy loam. *Position*, open and sunny preferably; will succeed, however, in partial shade. *Size of beds*, 3 ft. wide, 12 in. high; alleys 2 ft. wide. *Preparation of soil*: In Oct. or Nov, trench two spits deep & break up third spit with fork. *Put* a thick layer of manure over third spit and work in a liberal quantity of old mortar, decayed vegetable matter, & rotten manure among upper spits. In Mar., double dig the soil again and add layer of decayed manure between first and second spits. In case of heavy wet soils put a thick layer of brick rubble under second spit in Oct. *Plant* in *Ap. Mark* out two rows on each bed, each row being 9 in. from alley, *Open* a trench 12 in. deep on each side of row thus Λ, and spread out roots on each side; plants to be 15 in. apart. Fill up trenches with soil & make level. "Crowns" or points of each plant to be 5 in. below surface. *Mulch* with decayed manure. Three-year old plants best for planting. *Cutting:* No shoots to be removed first year, moderate quantity the second year, freely afterwards. *Shoots* should not be less than 6 in. long when cut. *Cease* cutting end of June. *General treatment:* Apply manures as advised below. *Keep* beds free of weeds. *Cut* down stems early in Nov. *Top-dress* with decayed manure in Nov., previously lightly forking up surface, & cover with sprinkling of soil. In Mar., lightly fork over surface, rake off rough particles into alley & leave smooth and neat. *Solid manures:* (a) Decayed horse manure for heavy soils; cow or pig manures for light soils; (b) seaweed mixed with above manures & applied as a top-dressing in Nov.; (c) Common salt, 1 oz. to a square yard, applied once a month, May to Sept.; (d) Beeson's manure ½lb. to a square yard, applied in Ap.; (e) Native guano, ½ lb. to a square yard, applied in Ap.; (f) Peruvian guano 1 oz. to a square yard, applied once a month, Ap. to Sept.; (g) 3 lbs. common salt, 1½ lbs. superphosphate, 1½ lbs. nitrate of soda, 1 lb. kainit, mixed together, and applied at rate of 2 oz. per square yard in Ap. & 2 oz. in July. *Liquid Manures:* (h) 2 oz. potash, 2 oz. superphosphate & 1 oz. sulphate of ammonia to each gallon of water applied in June; (i) Common salt, 2 oz. to each gallon of water applied in May and July; (j) nitrate of soda, ¼ oz. to each gallon of water applied in May, July, & Aug.; (k) Draining from manure heap applied frequently in Ap. to Sept. FORCING IN BOXES: *Place* strong shoots not less than three-years old in deep boxes containing a few inches of mould. *Cover* crowns with four inches of mould. *Place* boxes in temp. of 65° to 75° any time between Nov. and Mar. Cover closely & keep moist. *When* shoots show, moisten with tepid water containing 2 oz. of salt to each gallon. FORCING in FRAMES: Prepare hotbed of manure in usual way. *Cover* with 3 in. of light soil. *Place* roots on this and cover to depth of 5 in. *Keep* soil moist & frame closed until shoots appear, when admit a little air. *Temp.* 60° to 75°. *Roots* of no use after forcing. *Propagate* by seeds sown in groups of three or four in holes 1 in. deep & 15 in. apart in rows formed as advised for planting; or in drills 1 in. deep & 12 in. apart in ordinary soil—both in Mar. or Ap. *Thin* seedlings raised by the first method to one in each group in May; those by the second method to a foot apart when 3 in. high. *Transplant* latter into permanent beds when two or three years old.

Astrantia (Master Wort).—*Ord.* Umbelliferæ. Hardy herbaceous perennials. *Nat.* European Alps, Caucasus, Sicily. *Introduced* 1596. *Ht.* 6 in. to 24 in. *Species* cultivated, 7. *Flowers*, pink, white; sum. *Soil*, ordinary. *Position*, shady borders or margins of woodland walks. *Plant*, Oct. or Mar. *Propagate* by seeds sown in sandy loam in cold frame in Ap.; division of roots in Oct. or Mar.

Atriplex (Orach, Orache, Arach, Purple Orach, Mountain Spinach). *Ord.* Chenopodiaceæ. Hardy annuals. *Nat.* Tartary. *Int.* 1548. *Species* cultivated, 1. The Orach (A. hortensis) is cultivated as a vegetable, the leaves being cooked and eaten like spinach. A purple-leaved variety (A. hortensis atro-sanguinea) is grown for flower-garden decoration in summer. *Culture* of Orach: *Soil*, ordinary rich. *Position*, sunny. *Sow* seeds at intervals of a fortnight from March to August in drills 1 in. deep and 2 ft. apart. Thin seedlings to 18 ins. apart in the row when large enough to handle. Remove flower stems directly they form. Gather the youngest and most succulent leaves for cooking. *Culture* of Purple Orach: *Sow* seeds thinly in March or April where required to grow. Thin seedlings to 1 ft. or so apart. Seedlings may be transplanted if required.

Avocado Pear (*Persea gratissima*)—see Persea.

Bæometra.—*Ord.* Liliaceæ. Greenhouse bulbous perennial. *Nat.* S. Africa. *Int.*, 1787. *Ht.*, 6 to 12 in. *Species* cultivated, 1 (*B. columellaris*). *Flowers*, yellow spotted black; June. *Compost*, equal parts sandy loam & peat, with a liberal addition of silver sand. *Position*, cool greenhouse during winter & spring; cold, sunny frame in summer. *Pot*, Aug. to Nov. *Water* freely during growing period. Gradually withhold water when leaves turn yellow, & keep dry when at rest. *Propagate* by seeds sown in a compost of sandy loam & peat, in cold greenhouse in early spring; or by off-sets at potting time.

Barberton Daisy (*Gerbera Jamesoni*)—see Gerbera.

Barnardia.—*Ord.* Liliaceæ. Hardy bulbous perennial. *Nat.* China. *Int.*, 1826. *Species* cultivated, 1 (*B. Scillioides*). *Ht.*, 6 in. *Flowers*, rose; autumn. *Soil*, equal parts peat & loam. *Position*, warm sunny rockery or border. *Plant*, Sept. or Oct. *Depth to plant*, 3 to 4 in. Leave bulbs undisturbed in ground. *Mulch* in well-decayed manure in summer. *Water* occasionally in very dry weather. *Propagate* by offsets removed in the autumn, & replant at same time.

Bayonet Cactus (Agave)—see Agave, p. 7.

Bay Tree (*Laurus Nobilis*)—see Laurus, p. 199.

Bean—see Faba, p. 129, for Broad Bean; Phaseolus, p. 285, for Kidney and Runner Beans.

Beaufort Myrtle (*Beaufortia decussata*)—see Beaufortia, p. 26.

Begonia.—Tuberous-rooted kinds may be propagated by division of tubers in spring. Plant the tubers half their depth in equal parts leaf-mould, peat, loam & sand in shallow box, and place in temp. 50° to 60° in spring. When shoots form, divide each tuber into two or three portions with shoots attached, and place in separate pots. *Begonia socrotana* may be increased by removing bulbils at base of stems, and planting in similar compost to above, in temp. 55° to 65° whenever procurable. For other cultural details—see Begonia, p. 27.

Bessera (Coral Drops).—*Ord.* Liliaceæ. Half-hardy bulbous plant. *Nat.* Mexico. *Int.*, 1850. *Ht*, 2 ft. *Flowers*, scarlet & white; summer. *Compost*, equal parts loam, leaf-mould, peat, & coarse silver sand. *Position*, well-drained pots in cold greenhouse. *Pot*, Oct. or Nov. *Water* freely during active growth. Keep more or less dry after foliage dies down until new growth begins. Requires plenty of sun. May be grown in well-drained border outdoors at foot of a south wall. *Propagate* by offsets removed and treated as old bulbs at potting time.

Bigelovia.—*Ord.* Compositæ. Hardy, shrubby, & herbaceous perennials. *Nat.* Porto Rico, etc. *Ht*, 1 to 3 ft. *Species* cultivated, 1;

perennial, 3 shrubs. *Flowers*, yellow; autumn. *Soil*, ordinary. *Position*, sunny border for perennial species; shrubberies or rockeries for shrubby species. *Plant* perennial species in March or April; others in autumn. *Propagate* shrubby species by cuttings in cold frame in summer; perennial species by division in March.

Blazing Star (*Liatris squarrosa*)—see Liatris, p. 204.

Bloomeria.—*Ord.* Liliaceæ. Half-hardy bulbous plant. *Nat.* California. *Int.*, 1869. *Species* cultivated, 2. *Ht.*, 12 in. *Flowers*, golden yellow. *Soil*, light, sandy. *Position*, warm border or rockery. *Plant* bulbs 2 to 3 in. deep, & 3 in. apart, Sept. to Nov. *Propagate* by offsets planted as directed for bulbs.

Blue Catananche (*Catananche cærulea*)—see Catananche, p. 54.

Blue Cupidone (*Catananche cærulea*)—see Catananche, p. 54.

Blue Succory (*Catananche cærulea*)—see Catananche, p. 54.

Boston Fern (*Nephrolepis exaltata*)—see Nephrolepis.

Bottle Brush Flower (*Callistemon speciosa*)—see Callistemon.

Brachyrodium Distachyum.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.* 9 in. *Inflorescence*, suitable for drying for winter decorations. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Ap. *Cut* inflorescence when in full flower.

Bridgesia Spicata—see *Ercilla spicata*, p. 437.

Bromelia.—*Ord.* Bromeliaceæ. Stove herbaceous perennials. *Nat.* Brazil & S. America. *Ht.* 1 to 2 ft. *Species* cultivated, 7. *Flowers*, yellow, purple, blue, & scarlet; sum. *Leaves*, spiney. *Culture*, same as for Bilbergia, which see.

Brugmansia Suaveolens—see *Datura*, shrubby species, p. 98.

Bryophyllum.—*Ord.* Crassulaceæ. Greenhouse succulent-leaved plants. *Nat.* India. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, green & purple; sum. *Compost*, two parts sandy loam, one part old mortar, rubble and sand. *Position*, well drained pits in sunny, fairly dry greenhouse. *Pot* in March. *Water* moderately in summer; keep rather dry at other seasons. *Temp.*, 45° to 55° in winter; 55° to 65° afterwards. *Propagate* by leaves simply laid on the surface of moist sand.

Buddleia.—In addition to methods of propagation recommended on p. 41, this shrub may also be increased by planting portions of roots in sandy soil in cold frame in autumn.

Buffalo Grass (*Stenotaphrum glabrum variegatum*)—see Stenotaphrum.

Bugle Vine (*Eccremocarpus scaber*)—see Eccremocarpus, p. 116.

Buphane.—*Ord.* Amaryllidaceæ. Half-hardy or greenhouse bulbous-rooted plants. *Nat.* Cape Colony. *Int.* 1795. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, purple; sum. *Compost*, equal parts peat, loam & sand. *Pot*, Sept. *Water* only when new growth begins, then give moderate quantity; cease to give any after leaves turn yellow. *Temp.* Sept. to Nov. 50° to 55° Nov. to Mar. 55° to 65°; Mar. to Sept. 65° to 75° Plants must have full exposure to sun. *Propagate* by offsets inserted in small pots & grown similar to large bulbs.

Cæsalpinia.—*Ord.* Leguminosæ Hardy deciduous shrubs. *Nat.* Japan. *Ht.* 6 to 8 ft. *Species* cultivated, 1 (*C. japonica*). *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, warm, sheltered shrubberies. *Plant*, Oct. to Feb. *Prune* merely to keep in good shape. *Propagate* by seeds sown in sandy soil in cold frame at any time.

Calliopsis.—*Ord.* Compositæ. Hardy Annuals. *Nat.* N. America. *Flowers*, yellow & scarlet; sum. *Ht.* 1 to 2 ft. *Soil* ordinary. *Position*, sunny beds or borders. *Sow* seeds 1/16 in. deep in patches in Ap. or May to flower in sum.; in Sept. to flower in spring. *Thin* seedlings to 4 in. apart when 2 in. high. Strictly, all the species & varieties of this genus belong to the genus Coreopsis, described on p. 79.

Callistemon (Bottle Brush Tree).—*Ord.* Myrtaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1788. *Ht.* 4 to 10 ft. *Species* cultivated, 3. *Flowers*, scarlet & yellow; Mar. to Aug. *Compost*, equal parts peat, loam & silver sand. *Position*, in pots, or in well-drained beds at base of wall. *Pot* or plant Mar. or Ap. *Prune* shoots slightly after flowering. *Water* freely Ap. to Sept., moderately afterwards. *Temp.* Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50° *Propagate* by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell glass, in temp. 55° to 65° during sum.

Canada Tea (*Gaultheria procumbens*)—see Gaultheria, p. 141.

Canadian Rice (*Zizania aquatica*)—see Zizania.

Candle Plant (*Cacalia articulata*)—see Cacalia, p. 44.

Cape Silver Tree (*Leucadendron argenteum*)—see Leucadendron.

Cardiospermum (Balloon Vine).—*Ord.* Sapindaceæ. Half-hardy annual climber. *Nat.* India. *Int.* 1594. *Ht.* 7 ft. *Species* cultivated, 1. *Flowers*, white, sum. *Sow* seeds in light soil in temp. 55° to 65° in Feb. or Mar., harden off seedlings in May, and plant out against sunny trellis or wall in good soil in June.

Carrot (Daucus carota).—*Ord.* Umbelliferæ. Hardy esculent-rooted biennial. *Nat.* Britain. *Ht.* 12 to 15 in. *Species* cultivated, 1; varieties many. *Flowers*, white, borne second year; June, July. *Soil*, deep, rich, sandy for long kinds; shallow, light for short varieties; that well manured for previous crop most suitable. *Position*, open garden for main crop; south border for early crop. *Sow* in Feb. for early use: in Mar. & Ap. for main crop; Aug. for late crop. *Depth for Sowing*: ¼ in. *Distance apart for rows*: 9 in. for long-rooted kinds; 6 in. for short-horn varieties. *Thin* long kinds to 9 in. apart in rows in June; others to 6 in. apart same time. *Stir* surface of soil frequently with hoe. *Lift* & store roots in Oct. & Nov. *Manures* (a) 2¾ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. guano per square yard, half the amount to be sprinkled along the drills prior to sowing & the remainder when the plants are thinned. (b) 3 lbs. common salt, 1¼ lbs. superphosphate, 1½ lbs. nitrate of soda, & 1 lb. kainit, to be applied as advised for *a*. (c) Beeson's manure or native guano at the rate of ½ lb. per square yard, applied half at time of sowing, & remainder after thinning. (d) Wood ashes are most beneficial to the growth of carrots. Sprinkle thinly along the drills prior to sowing. FORCING: *Soil*, light rich. *Position*, frame over hotbed, with temp. 75° to 80°. *Sow* seeds thinly ¼ in. deep in Feb. or Mar. *Water* moderately. *Ventilate* frame when temp. reaches 75°. *Thin* seedlings to 3 in. apart when 1 in. high.

Carya (Hickory).—*Ord.* Juglandaceæ. Hardy deciduous trees. *Nat.* N. America. *Int.* 1629. *Ht.* 30 to 70 ft. *Species* cultivated, about 10; varieties several. Full grown trees bear edible nuts similar to walnuts. *Soil*, ordinary. *Position*, shrubberies, woods, or as single specimens on lawns & in parks. *Plant*, Oct. to Mar. *Prune*, Nov., thinning out unsightly branches only. *Propagate* by nuts sown 2 in. deep where trees are required to grow, in Nov.

Caryopteris (Moustache plant).—*Ord.* Verbenaceæ. Half-hardy shrubby perennial. *Nat.* China & Japan. *Int.* 1814. *Ht.* 2 to 5 ft. *Species* cultivated, 1. *Flowers*, blue; autumn. *Compost*, two parts loam, one part leaf-mould & a little sand. *Position*, pots in cool greenhouse, or in border at foot of a warm, sheltered wall outdoors. *Pot* or plant Ap. *Water* freely in spring & sum.; moderately in winter. *Propagate* by seeds sown in light soil in temp. 55° in spring; cuttings of the young shoots or division of roots in Mar. or Ap.

Castilleja (Painted Cup).—*Ord.* Scrophularineæ. Half-hardy perennials. *Nat.* N. America and Texas. *Ht.* 6 to 12 in. *Species* cultivated, 9. *Flowers*, yellow; bracts, scarlet; sum. *Compost*, two parts peat, one part of equal proportions of loam, leaf mould & sand. *Position*, sunny sheltered borders. *Plant* in April. *Protect* in winter. *Propagate* by seeds sown in temp. 55° to 65° in March, hardening off seedlings in cold frame.

Catesbæa (Lily Thorn).—*Ord.* Rubiaceæ. Stove evergreen flowering shrub. *Nat.* W. Indies. *Ht.* 2 to 10 ft. *Species* cultivated, 3. *Flowers*, yellow & white; sum. *Compost*, equal parts loam & peat, & a little sand. *Position*, well drained pots & plenty of light. *Pot* in Mar. *Water* freely Mar. to Sept; moderately afterwards. *Temp.*, 55° to 65° Oct. to Mar.; 75° to 85° afterwards. *Propagate* by cuttings inserted in sand under bell glass in a temp. of 75° in spring.

Caucasian Scabious (*Scabiosa caucasica*)—see Scabiosa, p. 350.

Celtis (Nettle Tree, Honeyberry).—*Ord.* Urticaceæ. Hardy deciduous ornamental-leaved trees. *Nat.* N. America and S. Europe. *Int.* 1656. *Ht.* 10 to 20 ft. *Species* cultivated, 2; varieties, several. *Flowers*, green; spring. *Habit* of tree, handsome. *Soil*, ordinary. *Position*, sunny shrubberies. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb. *Propagate* by seeds sown outdoors in outer layering shoots in Oct.; cuttings of firm shoots in Nov.

Centrosema.—*Ord.* Leguminosæ. Stove evergreen climbers, *Nat.* Brazil & Florida. *Ht.* 4 to 5 ft. *Species* cultivated, 2. *Flowers*, rose, violet; sum. *Compost*, equal parts peat, loam, leaf-mould, & silver sand. *Position*, pots on staging, shoots trained up rafters or round a trellis or sticks. *Pot* in Mar. *Water* freely in spring & sum.; moderately in winter. *Temp.*, Mar. to Sep., 75° 85°; Sept. to Mar. 55° to 65°. *Propagate* by seeds in a temp. of 75° in Mar.; also by cuttings in sand in a temp. of 85° in sum.

Ceratochloa Pendula (Californian Prairie Grass).—*Ord.* Gramineæ. Hardy annual flowering grass. *Nat.* California. *Ht.* 12 in. *Inflorescence*, useful for drying for winter decoration. *Cut* and dry when flowers are fully expanded. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in April.

Ceropegia.—*Ord.* Asclepiadeæ. Greenhouse trailing plant. Ornamental leaved. *Nat.* Natal. *Int.* 1897. *Species* cultivated, several; only one worth growing—*C. Woodii*. *Flowers*, pink or violet; July. *Compost*, equal parts peat, loam, leaf-mould and silver sand. *Position*, baskets or pots suspended from roof of greenhouse, or in rockeries; sunny. *Pot.* Mar. *Water* moderately between Mar. & Sept.; occasionally afterwards. *Temp.* Mar. to Sep. 55° to 65°; afterwards 45° to 50°. Propagate by cuttings of slender shoots inserted in silver sand, in well drained pots, in a temp. of 65° in spring.

Chamæcyparis.—This genus is amalgamated with *Retinospora*, and *Cupressus*, which see.

Changeable-flowered Lupin (*Lupinus mutabilis*) see p. 217.

Chloris.—*Ord.* Gramineæ. Hardy annual flowering grasses. *Nat.* India, Mexico. *Species* cultivated 2 (*C. barbata* & *C. elegans*). *Ht.* 12 in. *Infloresence* suitable for winter decorations. *Cut* and dry when fully developed. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Ap.

Chloropsis Blanchardiana.—*Ord.* Gramineæ. Hardy perennial flowering grass. *Ht.* 2 ft. *Inflorescence*, rose coloured, borne in spikes. *Gather* when fully developed & dry for winter decorations. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Sept. or Ap.

Cibotium (Chignon Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* China, Mexico, Guatemala. *Ht.* 10 to 15 ft. *Species* cultivated, about 4. *Int.* 1824. *Compost*, two-thirds peat and loam & abundance of sand. *Position*, large pots or tubs well drained in shady stove, greenhouse, or conservatory. *Repot*, Feb., Mar. *Water* moderately, Oct. to Mar., freely afterwards. *Syringe* trunks daily, Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse: Mar. to Sept., 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat, in well drained pots covered with a sheet of glass, & kept moist.

Citron Scented Gardenia (*Mitriostigma axillare*)—see p. 238.

Claret Vine (*Vitis vinifera purpurea*)—see p. 414.

Clematis.—Instead of pruning the various types as advised on p. 69, do so as follows:—The *montana*, *florida*, and *patens* types, together with their respective varieties, bear their flowers on the old or ripened shoots. In pruning these, simply cut away weak or overcrowded growths, and remove the tops only of strong shoots of previous year's growth. The *Jackmanni launginosa* and *viticella* types and their varieties produce their flowers on shoots of the current year's growth. The shoots of the previous year's growth should therefore be shortened two-thirds of their length. Prune in all cases in Feb.

Climbing Gentian (*Crawfurdia japonica*)—see p. 84.

Climbing Dahlia (*Hidalgoa Wercklei*)—see Hidalgoa.

Conandron.—*Ord.* Gesneraceæ. Half-hardy herbaceous perennial. *Nat.* Japan. *Int.* 1879. *Ht.* 6 to 9 ins. *Species* cultivated, 1 (*C. ramondioides*). *Flowers*, white, with purple centres; summer. *Culture*, grow in a mixture of peat and grit in shady, moist crevices of rockwork. *Plant* in Mar. or April. *Propagate* by seeds sown in peat soil in a shady frame in spring; division of plants in March. May also be grown in pots in a cold shady greenhouse. *Pot* in March and keep moist all the year round.

Coral Drops (*Bessera elegans*)—see Bessera.

Crassula—see p. 84.

Cress (*Lepidium sativum*)—see Lepidium, p. 202.

Croton.—For culture see Codiæum, p. 72.

Custard Apple (*Anona squamosa*)—see Anona.

Cynara (Cardoon, Globe Artichoke).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* (Cardoon) Candia; (Globe artichoke) S. Europe. *Int.* Cardoon, 1658; Artichoke, 1548. *Ht.* 5 to 8 ft. *Species* cultivated, 2; varieties, several. *Flowers*, blue and purple; Aug. Immature flower heads of artichoke used as a vegetable: blanched stalks and mid ribs of leaves of cardoon also edible. Culture of Cardoon (*C. cardunculus*): *Soil*, light deep rich ordinary. *Position*, open and sunny. *Prepare* trenches 12 in. deep

18 in. wide, and 4 ft. apart from centre to centre in Oct. Fork 6 in. of rotten manure into the soil in bottom of trench. The third week in Ap. spread 2 to 3 in. of light vegetable mould along the trench. *Sow* the seeds in patches of three or four, 1 in. deep & 18 in. apart, along the centre of trench. *Thin* seedlings when 3 in. high to one in each patch. *Place* a stake to each plant when a foot high, & secure the leaves loosely to this. In Aug. draw the leaves tightly together, carefully wind a small hayband round each plant & cover with mould. *Plants* are sufficiently blanched for cooking eight weeks after earthing up. *Seeds* may be sown two in a 3 in. pot filled with ordinary soil, placed in temp. 55° to 65° in Mar., hardened off in Ap., & planted out in May. CULTURE OF ARTICHOKE: *Soil*, deep rich loam, liberally manured and trenched three spits deep. *Position*, open & sunny *Plant* suckers, *i.e.*, offshoots, 4 in. deep in triangular groups 9 in. from plant to plant, 2 ft. apart in rows 4 ft. asunder, early in Ap. *Keep* well watered first season. In Nov. surround each plant with dry litter & in severe weather cover with similar material, uncovering in mild weather. *Fork* surface over in Mar., & mulch with decayed manure. *Apply* liquid manure freely to establish plants during sum. *Gather* flower heads for use when fully developed. *Seaweed* an excellent manure. *Apply* in spring. *Replant* bed every four years. *Propagate* by offsets or suckers removed in Ap. *Seeds* do not ripen in England.

Cypella.—*Ord.* Irideæ. Half-hardy bulbs. *Nat.* Peru, Mexico, &c. *Species* cultivated, 4. *Flowers*, orange, blue, brown, purple, & yellow; sum. *Ht.* 1 to 3 ft. Adapted for cool greenhouse and outdoor culture. Culture same as for Ixias, which see.

Cyrilla.—*Ord.* Cyrilleæ. Hardy evergreen flowering shrub. *Nat.* W. Indies, Brazil, Carolina, & Texas. *Ht.* 4 to 6 ft. *Species* cultivated, 1 (*C. racemiflora*). *Flowers*, white, borne in tufts on the ends of old wood; sum. *Soil*, loam & peat. *Position*, warm, sheltered nooks. *Plant*, Sept. or Ap. *Propagate* by cuttings in silver sand under bell glass in temp. 55° to 65°.

Cyrtomium.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* India, China, & Polynesia. *Int.* 1825. *Ht.* 12 in. to 15 in. *Fronds* feather-shaped. *Compost*, equal parts peat, loam, leaf-mould and sand. *Position*, pots in shady greenhouse. Pot, Mar. or Ap. *Water* freely Mar. to Oct.; moderately afterwards. *Sponge* fronds occasionally to remove dust, etc. *Syringing* fronds not advisable. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 50° to 55°. *Propagate* by spores.

Davidia.—*Ord.* Cornaceæ. Hardy deciduous flowering and ornamental tree. *Nat.* Central China. *Int.* 1903. *Flowers*, red, surrounded by white leafy bracts; very striking. *Ht.* 20 to 30 ft. *Species* cultivated, 1 (*D. involucrata*). *Culture*, plant in good ordinary soil, and a sunny sheltered position, in Oct. or Nov. Protect in severe weather for a year or so with mats or straw. *Prune* into shape in January. *Propagate* by cuttings in autumn.

Diascia.—*Ord.* Scrophulariaceæ. Half-hardy annual. *Nat.* S. Africa. *Int.*, 1871. *Ht.*, 1 ft. *Flowers*, rosy pink; summer. *Species* cultivated, 1 (*D. barberæ*). INDOOR CULTURE: *Compost*, two parts sandy loam & one part leaf-mould & sand. *Sow* seeds in a temp. of 60° in Mar. or Ap. *Transplant* seedlings when the third leaf forms, four or five in a 4½ in. pot. *Grow* on shelf near the glass. *Water* freely when flower buds form. Give weak liquid manure occasionally. Shoots may require to be supported by twiggy sticks. OUTDOOR CULTURE: *Sow* seeds in temp. of 60° in Mar. or Ap. *Transplant* in pots or boxes when large enough to handle. Gradually harden off in cold frame, & plant out in good ordinary soil in sunny position at the end of May.

Dimorphotheca.—*Ord.* Compositæ. Half-hardy annual and perennial greenhouse plants. *Nat.* of S. Africa. *First int.*, 1774. *Flowers*, purple, yellow & white; summer. *Ht.*, 1 to 3 ft. *Species* cultivated, about 8. INDOOR CULTURE: *Compost*, two parts sandy loam, one part leaf-mould, & a liberal addition of silver sand. *Pot*, Mar. or Ap. *Grow* in cool sunny greenhouse. *Water* freely during spring & summer; moderately in autumn & winter. *Temp.*, Oct. to Mar., 40° to 50°. OUTDOOR CULTURE: *Soil*, ordinary, sandy. *Position*, sunny, warm border. *Plant*, May & June. *Propagate* by seeds sown in a temp. of 55° to 65° in sandy soil in early spring, also by cuttings of shoots inserted in spring or summer in sandy soil.

Diospyros (Ebony tree).—*Ord.* Ebenaceæ. Greenhouse & stove ornamental shrubs. *Nat.* Japan, China, Philippines, & West Indies. *Int.* 1789. *Ht.* 15 to 20 ft. *Flowers*, insignificant. *Compost*, equal parts peat & loam, with a little sand. *Pot* Mar. *Position*, pots or tubs in light part of greenhouse or stove. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°, & Sept. to Mar. 40° to 50°, for greenhouse species; Sept. to Mar. 55° to 65°, & Mar. to Sept. 65° to 85° for stove species. *Propagate* by cuttings of firm shoots inserted in moist sand under bell glass in spring. For culture of hardy species—see p. 106.

Diplarrhena.—*Ord.* Irideæ. Greenhouse perennial. *Nat.* Australia. *Ht.* 1 to 1½ ft. *Species* cultivated, 1. *Flowers*, white; sum. *Compost*, equal parts peat, loam, leaf-mould, & silver sand. *Position*, pots in sunny part of greenhouse; no shade needed. *Pot* in Mar. *Water* freely in spring & sum.; give little at other seasons. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds in spring; division of rhizomes at the same time.

Diplopappus.—*Ord.* Compositæ. Hardy evergreen flowering shrubs. *Nat.* N. America. *Ht.* 2 to 4 ft. *Species* cultivated, 4. *Flowers*, white, violet, blue; autumn. Best known species is *D. chrysophyllus*, which has golden-tinted foliage; known also as *Cassinia chrysophyllus* and *Aster chrysophyllus*. *Soil*, ordinary. *Position*, sunny, clayish borders. *Plant* in autumn. *Propagate* by cuttings of young shoots inserted in sandy soil in a cold frame any time during sum.

Dog's-Bane (*Apocynum*)—see Apocynum.

Dragon Root (*Arisæma dracontium*)—see Arisæma.

Drimiopsis.—*Ord.* Liliaceæ. Greenhouse and half-hardy bulbous plants. *Nat.* Natal and Zanzibar. *Int.* 1851. *Ht.* 6 to 9 ins. *Flowers*, white and pink; summer. *Species* cultivated, 5. *Culture*, grow in a compost of equal parts peat, leaf mould, and sandy loam in pots. *Pot* Oct. to March. Supply freely with water whilst growing; keep dry when leaves wither. *Propagate* by offsets in winter. For outdoor culture, plant in above compost in March. Lift bulbs in autumn and keep dry.

Earth Nut (*Arachis hypogæa*)—see Arachis.

Elisena.—*Ord.* Amaryllideæ. Warm greenhouse bulbous plant. *Nat.* Andes of Peru *Int.*, 1837. *Ht.*, 3 ft. *Species* cultivated, 1 (*E. longipetela*). *Flowers*, white; spring. *Compost*, two parts light sandy loam, one part leaf-mould, and one part of coarse sand. *Position*, well-drained pots in warm, sunny greenhouse. *Pot*, autumn. *Water* freely during growing period. Keep nearly dry when at rest. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by offsets removed & treated as parent bulbs at potting time.

Embothrium.—In addition to methods of propagation described on p. 119, this plant may also be increased by cuttings of roots inserted in sandy peat in temp. 75° in spring; by grafting young shoots on portions of its own roots in spring; also by sowing imported or home-saved seeds in sandy peat, in temp. 75°, in spring.

Enkianthus.—*Ord.* Ericaceæ. Greenhouse and hardy evergreen shrubs. *Nat.* Japan and China. *Ht.* 3 to 20 ft. *Species* cultivated 3; greenhouse, hardy (*E. japonicus*) *Flowers*, pink or red; May. Greenhouse Species; *Compost*, two parts loam, one part peat and sand. *Position*, in light sunny greenhouse. *Pot* in March. *Water* freely from Mar. to Oct. moderately afterwards. *Temp.*, 45° to 50° in winter; 55° to 65° other seasons. Hardy Species: *Soil*, ordinary mixed with a little peat and leaf-mould. *Position*, warm, sheltered shrubberies or beds. *Plant*, Sept. or April. *Propagate* by cuttings of firm shoots in sandy soil in heat in spring.

Eomecon.—*Ord.* Papaveraceæ. Hardy perennial. *Nat.* China. *Int.*, 1889. *Species* cultivated, 1 (*E. chionantha*). *Ht.*, 1 to 2 ft. *Flowers*, white; summer. *Soil*, sandy peat, & leaf-mould. *Position*, sunny well-drained border. *Plant*, Oct. to Mar. *Water* freely in very dry weather. *Propagate* by division of the roots in Mar. or early Ap.

Ercilla.—*Ord.* Phytolaccaceæ. Hardy evergreen creeper. *Nat.* Chili. *First* introduced 1840. *Ht.* 10 to 15 ft. *Species* cultivated 1, *E. spicata*). *Flowers*, purple; spring. *Soil*, sandy loam. *Position*, south or south walls; sunny. *Plant* Sept. or Ap. *Prune* after flowering, cutting away weak and shortening strong shoots one fourth. *Shoots* cling to wall like those of ivy. *Propagate* by cuttings or layers in autumn.

Eucodonia—see *Achimenes.*

Euterpe.—*Ord.* Palmaceæ, Stove ornamental-leaved plants. *Nat.* W. Indies, Brazil, & Mauritius. *Int.* 1656. *Ht.* 5 to 10 ft. *Species* cultivated, 5. *Leaves*, green & palm-like. *Compost*, equal parts loam, peat, leaf mould & sand. *Pot*, Feb. to Mar. *Position*, pots in shady part of stove. *Water* freely always. *Shade* from sun. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°. *Propagate* by seeds sown 1 in. deep in above compost, in temp. 85° in spring.

Evening Star (*Cooperia Drummondi*)—see Cooperia, p. 78.

Fairy Borage (*Eritrichium nanum*)—see Eritrichium, p. 124.

Fairy Forget-Me-Not (*Eritrichium nanum*)—see Eritichium, p. 124.

False Acacia (*Robinia pseudo acacia*)—see Robinia, p. 332.

Farfugium grande—see *Ligularia Kæmpferi aureo-maculata.*

Fatsia.—This plant may, in addition to other methods of propagation described on p. 130, be also increased by seeds sown ⅛ in. deep in equal parts loam, leaf-mould, & sand, and placed in a temp. of 65° to 75° in spring.

Ficaria (Celandine).—*Ord.* Ranunculaceæ. Hardy perennials. *Nat.* England, S. Europe, N. Africa. *Ht.* 6 in. *Species* cultivated, 2; varieties several. *Flowers*, white, yellow; single or double; spring. *Soil*, ordinary. *Position*, moist shady borders, under shade of trees, or margins of water. *Plant*, Mar. *Propagate* by seeds sown in moist position outdoors in Ap.; by division in Mar.

Fidgety Plant (*Desmodium gyrans*)—see Desmodium, p. 101.

Fig-leaf Palm (*Fatsia japonica*)—see Fatsia, p. 129.

Finocchio (*Fœniculum dulce*)—see Fœniculum.

Flannel Flower (*Actinotus helianthi*)—see Actinotus.

Florida or Velvet Bean (*Mucuna utilis*)—see Mucuna.

Fœniculum (Finocchio, or Florence Fennel).—*Ord.* Umbelliferæ. Half-hardy annual or biennial. *Nat.* S. Europe. *Ht.* 2½ ft. Swollen bases of leaf stalks used as a cooked vegetable. Rarely grown in England. *Sow* seeds in drills 20 ins. apart and 1 in. deep in sunny border outdoors in April. Thin seedlings to 6 in. apart. *Water* freely in dry weather. *Gather* for cooking when leaf stalks are the size of a hen's egg.

Genista fragrans—see *Cytisus racemosa.*

Gelasine—*Ord.* Irideæ. Half-hardy bulbous plant. *Nat.* S. America. *Species* cultivated, 1 (*G. azurea*). *Ht.* 1 ft. *Flowers*, blue; May. OUTDOOR CULTURE: *Soil*, sandy loam. *Position*, sunny; sheltered nook of rockery. *Plant*, Aug. to Nov. 4 in. deep and 4 in. apart. *Protect* from rain in winter by a handlight. GREENHOUSE CULTURE: *Compost*, two parts sandy loam and one part leaf-mould and silver sand. *Position*, cold, sunny greenhouse. *Pot* in Aug., placing 3 to 4 bulbs in a 4½ in. pot; bury bulbs just below surface Cover with ashes in cold frame till growth begins, then remove to greenhouse. *Water* moderately when in growth; keep dry after growth ceases. *Propagate* by seeds sown in sandy loam in heat; by offsets at potting time.

Gerbera (Scarlet Barberton or Transvaal Daisy).—*Ord.* Compositæ Greenhouse perennial herbs. *Nat.* S. Africa. *Int.* 1888. *Ht.* 12 ins *Species* cultivated, 3 (*G. asplenifolia*, *G. Jamesoni*, and *G. viridifolia*) *Flowers*, orange-scarlet, purple, white and yellow; summer. *Culture*, grow in a compost of sandy loam and peat in a temperature of 45 to 50° from Nov. to May; without artificial heat afterwards. *Water* sparingly from Nov. to April; freely afterwards. Repot annually in spring. No shade required. *Propagate* by seeds sown in sandy peat in March in temperature 55°; by cuttings of side shoots in spring. G. Jamesoni may be grown outdoors in warm nooks in mild districts.

Globe Artichoke (*Cynara scolymus*)—see Cynara, p. 434.

Golden Knee (*Chrysogonum Virginianum*)—see Chrysogonum.

Grape Hyacinth (*Muscari botryoides*)—see Muscari.

Green Dragon (*Arisæma dracontium*)—see Arisæma.

Ground Nut *Arachis hypogæa*)—see Arachis.

Gymnolomia.—*Ord.* Compositæ. Hardy annual. *Nat* New Mexico. *Ht.*, 1½ ft. *Species* cultivated, 1 (*G. multiflora*). *Flowers*, yellow with dark centre; Aug. & Sept. Useful plant for cutting. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in patches outdoors during Ap. *Thin out* seedlings later on to a few inches apart.

Hart's Foxhorn (*Rhamnus catharticus*)—see Rhamnus.

Haplocarpha.—*Ord.* Compositæ. Half-hardy perennial. *Nat.* S. Africa. *Int* 1883. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow & purple; sum. *Soil*, sandy loam. *Position*, sunny, dry, and well drained border. *Plant*, April. *Propagate* by seeds sown in temp. 55° in spring; also by cuttings inserted in temp. 55° in spring; or in cold frame during sum.

Helicophyllum.—*Ord.* Aroideæ. Hardy tuberous-rooted perennial. *Nat.* Central Asia. *Species* cultivated, 1 (*H. Alberti*). *Ht.* 1 to 2 ft. *Flower spathes*, green without, purple within, fœtid; May. *Soil*, ordinary. *Position*, sunny, sheltered, dryish border. *Plant* in autumn 6 in. deep. *Protect* with a covering of ashes in winter. *Propagate* by offsets.

Hesperocallis.—*Ord.* Liliaceæ. Greenhouse or half-hardy perennial. *Nat.* California. *Int.* 1882. *Ht.* 2 ft. *Flowers*, white and sweet-scented; spring. *Species* cultivated, 1 (*H. undulata*). *Culture*, grow in pots in a compost of two parts sandy loam, one part leaf mould, and a little sand. Water freely April to Oct., moderately afterwards. Repot only when root-bound, and then in March. May be plunged in their pots outdoors in summer. Winter temperature, 45 to 50°. *Propagate* by division in March, or offsets at any time.

Hidalgoa (Climbing Dahlia).—*Ord.* Compositæ. Half-hardy climbing perennial. *Nat.* Costa Rica. *Int.* 1898. *Ht.* 12 to 20 ft. *Flowers*, scarlet and yellow, dahlia-like in shape; summer. *Species* cultivated, 1 (*H. Wercklei*). OUTDOOR CULTURE: Raise plants from seed or cuttings in heat in spring, and plant out against a sunny trellis or arch late in May. *Water* freely, and feed with liquid manure when plants begin to bloom. Cut down shoots in Sept., lift roots, and place them in pots in a heated house to furnish cuttings in spring. GREENHOUSE CULTURE: Grow in equal parts loam and leaf mould, with plenty of sand. *Water* freely in spring and summer; little at other seasons. Train shoots up roof. *Propagate* by cuttings of young shoots in spring.

Homeria.—*Ord.* Irideæ. Handsome greenhouse bulb. *Nat.* S. Africa. *First int.*, 1793. *Species* cultivated, 4. *Ht.*, 1 to 2 ft. *Flowers*, orange, red, yellow, blue, & brown; summer. POT CULTURE: *Compost*, loam, leaf-mould, & sand in equal parts. Place bulbs 1 in. apart, & 1 in. deep in 5 in. pots during Sept. & Oct. Stand in a cold frame, & cover with a few inches of cocoanut-fibre refuse till growth begins. then remove to greenhouse. Plant in pots near the glass. *Water* freely during active growth. Keep nearly dry after flowers fade to facilitate ripening of bulbs. *Repot* annually in autumn. OUTDOOR CULTURE: *Plant* bulbs 3 to 4 in. deep in light, rich, well-drained soil in a south border between Oct. and Jan. Protect with bracken litter or leaves to ward off heavy rains. *Propagate* by offsets removed at planting time.

Honeyberry (*Celtis australis*)—see Celtis.

Hop Hornbeam (*Ostrya carpinifolia*)—see Ostrya.

Horehound (*Marubium vulgare*)—see Marubium.

Hyacinthus Candicans—see Galtonia, p. 139.

Incarvillea.—*Ord.* Bignoniaceæ. Hardy herbaceous perennials *Nat.* China. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, rose & rosy durple; sum. All may be grown in pots in cool greenhouses, as well as outdoors. OUTDOOR CULTURE: *Soil*, light, rich & well drained. *Position*, sunny & sheltered borders. *Plant* in Mar. or Ap. *Protect* crowns of the plant in winter by a covering of ashes or manure; or lift roots in Oct.; store like dahlias, re-planting following spring. *Apply* weak liquid manure occasionally in sum. INDOOR CULTURE: *Compost*, two parts loam, one part of equal proportions of leaf-mould, decayed manure, & silver sand. *Position*, fairly large pots, well drained in cool or cold greenhouse. *Pot* in Oct. or Mar. *Water* freely in spring & sum.; keep nearly dry in autumn & winter; give weak liquid manure occasionally in sum. *Propagate* by seeds sown in a temp. of 55° in Mar., or in cold frame in Ap., & transplant seedlings outdoors in June. *Sow* also in Sept. in cold frame, & plant out seedlings following Ap. Divide large plants in autumn.

Indian Turnip.—The genus Arisæma.

Isle of Man Fuchsia (*Fuchsia Riccartonia*)—see Fuchsia, p. 137.

Isoloma.—*Ord.* Gesneraceæ. Stove flowering herbs. *Nat.* Central America. *Ht.* 1 to 3 ft. *Species* cultivated, 16. *Flowers*, rose, red, orange, yellow, lilac, purple, &c.; winter. *Culture & propagation* same as advised for Gesnera, which see.

Ivy-Leaved Pelargonium (*Pelargonium peltatum.*)—see Pelargonium, p. 275.

Jamesia.—*Ord.* Saxifrageæ. Hardy deciduous flowering shrub. *Nat.* Rocky Mountains. *Int.* 1820. *Ht.* 3 ft. to 4 ft. *Species* cultivated, 1, *J. Americana.* *Flowers*, white. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant* Oct. to Feb. *Prune* directly after flowering. *Propagate* by cuttings inserted under handlight or in cold frame in autumn.

Japanese Clover (*Lespedeza bicolor*)—see Lespedeza, p. 203.

Japanese Quince (*Cydonia japonica*) see Cydonia, p. 92.

Japanese Wineberry (*Rubus Phœnicolasius*). *Ord* Rosaceæ. Hardy fruit-bearing shrub. *Nat.* Japan. *Int.* 1872. *Ht.* 3 to 5 ft. *Fruit*, small, red, & said to be good for eating raw or for preserving. *Soil*. good, rich ordinary. *Position*, sunny part of garden. *Plant* Sept. to Nov., 3 ft. in rows running N. & S. *Train* young shoots to wire trellis & allow older ones to hang loosely. *Fruit* borne on previous year's growth. *Prune* in autumn, cutting away shoots that have borne fruit. *Mulch* liberally with manure in sum. *Apply* liquid manure freely in sum. *Propagate* by division of roots in autumn.

Jarrah (*Eucalyptus marginata*—see Eucalyptus.

Kangura Vine (*Cissus Bandiniana*)—see Cissus, p. 67.

Karri (*Eucalyptus versicolor*)—see Eucalyptus.

Kill-Dog (*Colchicum autumnale*)—see Colchicum, p. 73.

Kochia (Summer or Mock Cypress).—*Ord.* Chenopodiaceæ. Hardy ornamental-leaved annual. *Nat.* Mexico. *Ht.* 2 ft. *Species* cultivated, 1 (*K. scoparia*). *Flowers*, uninteresting. *Leaves*, narrow & green, changing to a brilliant crimson-purple tint in early autumn. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in light soil in a temp. of 55° in Mar. ; transplant seedlings into pots or boxes, harden off in a cold frame, & plant out 2 ft. apart each way in June.

Lady-in-the-Boat (*Dielytra spectabilis*)—see Dielytra, p. 105.

Lavender Cotton (*Santolina chamæcyparissus*)—see Santolina.

Leptochloa gracilis.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.* 3 ft. *Inflorescence*, borne in long plume-like panicles; very graceful. *Cut* and *dry* for winter decoration when in full flower. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Ap.

Leucadendron (Cape Silver Tree).—*Ord.* Proteaceæ. Greenhouse evergreen trees with silvery silky leaves. In Cape Colony the leaves are utilised for ornamental purposes, especially for painting local scenes thereon. *Nat.* S. Africa. *Species* cultivated, several, the chief one being *L. argenteum.* *Ht.* 15 ft. *Flowers*, yellow ; Aug. *Compost*, equal parts sandy loam & peat, with some charcoal and sand. *Position*, light, airy greenhouse, free from damp in winter. *Pot* in March. *Water* moderately in summer ; very little in winter. *Temp.*, Mar. to Oct., 60° to 65° ; Sept. to Mar , 40° to 50°. *Propagate* by seeds sown in sandy peat in a temp. of 55° to 65° directly they are imported ; by cuttings of firm shoots, in sand in a temp. of 55° in summer.

Leucocrinum.—*Ord.* Liliaceæ. Hardy bulbous rooted perennials. *Nat.* Arizona. *Ht.* 2 to 3 in. *Species* cultivated, 1 (*L. montanum*). *Flowers*, white, fragrant ; spring. *Soil*, sandy loam. *Position*, sunny, sheltered nooks of rockery ; good drainage needed. *Plant*, Aug. to Nov.

Protect from rain in winter by a hand-glass. May also be grown in pots of sandy soil in cold greenhouse. *Pot* in August. *Water* moderately when growing; keep dry when at rest. *Propagate* by offsets in autumn.

Lily of the Nile (*Richardia Æthiopica*)—see Richardia, p. 331.

Lily of the Valley (*Convallaria majalis*)—see Convallaria, p. 78.

Lily of the Valley Tree (*Pieris floribunda*)—see Pieris, p. 292.

Lily Thorn (*Catesbæa spinosa*)—see Catesbæa.

Litonia.—*Ord.* Liliaceæ. Greenhouse herbaceous perennial climber. *Nat.* S. Africa. *Int.*, 1853. *Species* cultivated, 1 (*L. modesta*). *Ht.*, 3 to 4 ft. *Flowers*, orange; April. *Compost*, two parts loam, one part each of leaf-mould, peat, & silver sand. *Position*, well-drained pots or bed in warm greenhouse. *Pot or plant*, March. *Train* shoots up roof or wall. *Water* freely during spring and summer; moderately, autumn & winter. *Syringe* morning & evening during early period of growth. Plant likes plenty of sunshine. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar. 50° to 60°. *Propagate* by division of the plant at potting time.

Logan Berry.—An American fruit, said to be a hybrid between the raspberry and blackberry. The berries are large, maroon-red in colour, of good flavour, and ripe from July onwards. Best grown as follows:—*Plant* 4 to 5 ft. apart, & place several stout stakes, 5 ft. long, round each plant at a distance of 3 ft. from latter; then train the shoots spirally & horizontally round these. *After fruiting* cut away the fruiting stems, training the young shoots in their place. *Feed liberally* with manure. *Propagate* by division of the roots, or by layering the young shoots in summer.

Loropetalum.—*Ord.* Hamamelideæ. Hardy deciduous flowering shrub, adapted for outdoor and cold greenhouse culture. *Nat.* China. *Species* cultivated, 1 (*L. chinense*). *Flowers*, white; autumn and winter. *Ht.* 3 to 4 ft. OUTDOOR CULTURE: *Soil*, ordinary, light, rich. *Position*, warm sheltered borders. *Plant*, Oct. to Feb. *Prune* to maintain good shape after flowering. GREENHOUSE CULTURE: *Compost*, two parts sandy loam, one part leaf-mould, & a liberal amount of sand. *Position*, pots in cold, sunny greenhouse; must not be forced. *Water* freely between Mar. & Oct.; moderately afterwards. *Pot* in Oct.; stand outdoors in full sun from June to Oct. to ripen wood. *Propagate* by cuttings in sandy soil in a cold frame in spring or summer; by seeds in similar soil in a cold frame at any time.

London Plane (*Platanus orientalis acerifolia*)—see Platanus, p. 298.

Melica.—*Ord.* Gramineæ. Hardy perennial flowering grasses. *Nat.* Peru. *Ht.* 9 in. to 3 ft. *Infloresence*, borne in silvery plumes or spikes. *Cut* and dry when in full flower. *Soil*, good ordinary. *Position*, large sunny borders for *M. altissima*; small borders for *M. papilionacea*. *Sow* seeds outdoors in Sept. or Ap.

Mercury Spinach (*Chenopodium Bonus Henricus*)—see Chenopodium, p. 61.

Mock Cypress (*Kochia scoparia*)—see Kochia.

Molopospermum.—*Ord.* Umbelliferæ. Hardy perennial; ornamental foliage. *Nat.* Central Europe. *Species* cultivated, 1. *Flowers*, yellowish; May. *Leaves*, fern-like & graceful. *Ht.* 3 to 5 ft. *Soil*, deep, rich. *Position*, sunny, fully exposed borders. *Plant* in Mar. *Propagate* by seeds sown outdoors when ripe, or in cold frame in Mar.; also by division of roots in April.

Monarch of the East (*Sauromatum guttatum*)—see Sauromatum.

Monkey Nut (*Arachis hypogæa*)—see Arachis.

Moustache Plant (*Caryopteris mastacantha*)—see Caryopteris.

Mucuna (Florida or Velvet Bean).—*Ord.* Leguminosæ. Half-hardy annual climber. *Nat.* S. America. *Ht.*, 5 to 6 ft. *Species* cultivated, 1 (*M. utilis*). *Compost*, equal parts loam & leaf-mould, with a liberal quantity of sand. *Position*, well-drained pots, and shoots trained up roof of sunny greenhouse. *Sow* seeds in a temp. of 65° to 75°. Carefully transplant into small pots, then shift later on into larger ones. *Water* freely. Plants may be grown outdoors during summer against south wall.

Nettle Tree (*Celtis occidentale*)—see Celtis.

Oblionker Tree (*Æsculus hippocastanum*)—see Æsculus, p. 6.

Orach, or Orache (*Atriplex hortensis*)—see Atriplex.

Orange Ball Tree (*Buddleia globosa*)—see Buddleia, p. 41.

Ostrya (Hop Hornbeam).—*Ord.* Cupuliferæ. Hardy deciduous trees. *Nat.* Europe. *Ht.* 20 ft. *Species* cultivated, 1 (*O. carpinifolia*). *Flowers*, greenish white, hop-like: May. *Soil*, ordinary moist. *Position*, by the side of streams, lakes, or in shrubberies in damp situations. *Plant*, Oct. to Feb. *Propagate* by seeds placed in a heap outdoors till spring, then sown in sandy soil outdoors; by cuttings inserted outdoors in autumn; by layering in summer; by grafting on the Hornbeam (*Carpinus betulus*) in Mar.

Otaheite Orange (*Citrus japonica*)—see Citrus, p. 68.

Oxypetalum.—*Ord.* Asclepiadeæ. Stove and warm greenhouse evergreen climbers. *Nat.* Brazil. *First int.*, 1823. *Species* cultivated, about 4. *Flowers*, blue, purple, white; fragrant; summer. *Compost*, equal parts fibrous peat, loam, & sand. *Position*, well-drained pots; shoots trained up roof. *Pot*, Mar. or Ap. *Water* freely in summer; moderately autumn & winter. *Syringe* morning & evening in spring time. *Prune* into shape Feb. *Repot*, Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Propagate* by seeds sown in sandy peat, in a temp. of 75° in spring, or by cuttings placed in sand under a bell-glass over bottom heat in spring.

Pampas Lily of the Valley (*Withania origanifolia*)—see Withania.

Paspalum Elegans.—*Ord* Gramineæ. Hardy annual flowering grass. *Ht.* 12 in. *Inflorescence*, suitable for bouquets & floral decorations. *Gather* & dry when in flower. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds out-doors in Ap.

Patchouli Plant (*Pogostemon patchouli*)—see Pogostemon.

Patrinia.—*Ord.* Valerianeæ. Hardy biennials and perennials. *Nat.* China & Siberia. *Ht.* 1 ft. *Species* cultivated, 1 perennial (*P. heterophylla*) & 4 biennials. *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, sunny borders. *Plant* in March. *Propagate* by seeds sown in light soil outdoors in April.

Pedlar's Basket (*Saxifraga sarmentosa*)—see Saxifraga, p. 9.

Pelargonium.—See p. 275.

Persea (Avocado Pear).—*Ord.* Laurineæ. Stove evergreen shrub. *Nat.* W. Indies. *Ht.* 10 ft. *Species* cultivated, 1 (*P. gratissima*). *Flowers*, green. *Fruit*, pear-shaped, purplish when ripe, & edible. *Compost*, equal parts loam & peat, & a little sand. *Position*, moist stone in pots. *Pot* in March. *Water* freely in summer, little in winter. *Syringe* daily in spring & summer. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown in above compost in a temp. of 85°; by cuttings in sand under bell glass in a similar temperature in spring.

Persimmon (*Diospyrus virginiana*)—see Diospyrus, p. 106.

Pheasant's Tail Grass (*Apera arundinacea*)—see Apera.

Placea.—*Ord.* Amaryllideæ. Greenhouse bulbous plants. *Nat.* Chili. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, crimson, purple & white; spring to autum. *Culture*, same as for Nerines, which see.

Pogostemon (Patchouli plant).—*Ord.* Labiatæ. Greenhouse shrubbery plant. *Nat.* East Indies. *Int.* 1848. *Ht.* 3 ft. *Flowers*, white and purple; sum. *Leaves* fragrant, furnishing the Patchouli perfume of commerce. *Compost*, equal parts peat & loam, with a little sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°, Sept. to Mar., 50° to 55°. *Propagate* by cuttings inserted in equal parts peat, loam, & sand, under bell glass, in temp. 55° to 65° in spring.

Poor Man's Orchid.—A name applied to Spanish and English Irises, which see.

Pretty Betsy (*Centranthus ruber*)—see Centranthus, p. 57.

Purple Orache (*Atriplex hortensis atro-sanguinea*—see Atriplex.)

Raspberry-Blackberry.—A recently raised hybrid, between Raspberry (*Belle de Fontenay*) & the Common Blackberry, & known as "*The Mahdi.*' It partakes of the character of both parents in the form of its foliage, but has the habit of a raspberry. *Fruit*, purplish red, with a raspberry flavour, large, & ripening early in Aug. *Culture*, same as for raspberry. See Rubus.

Ridge Cucumber (*Cucumis sativus*)—see Cucumis, p. 87.

Roella (South African Harebell).—*Ord.* Campanulaceæ. Greenhouse evergreen shrub. *Nat.* S. Africa. *Int.* 1774. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white, purple & violet; sum. *Compost*, equal parts of peat & loam & a fair quantity of sand. *Position*, pots in light & dry part of greenhouse. *Pot*, Mar. *Water* very carefully during spring & sum., & give very little in autumn and winter. *Syringing* or wetting the foliage must be avoided at all seasons. *Ventilate* freely in summer & moderately at other times. *Dry* atmosphere essential in autumn & winter. *Remove* flowers directly they fade; also all blooms that form in autumn & winter. *Temp.* Sept. to Ap. 40° to 45°; Ap. to Sept. 50° to 60°. *Propagate* by cuttings of strong shoots 2 in. long, inserted in moist sand in a temp. 58° in spring. Shade from sun.

Rose Mallow (*Hibiscus roseus*)—see Hibiscus, p. 166.

Rose of Sharon (*Hibiscus syriacus*).—see Hibiscus, p. 166.

Rosmarinus (Rosemary).—*Ord.* Labiatæ. Hardy evergreen shrub. *Nat.* S. Europe. *Int.* 1548. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, purple; Feb. *Leaves*, highly fragrant. *Soil*, ordinary, freely mixed with old mortar. *Position*, dryish border at base of a south or west wall; rarely does well in open garden. *Plant*, Ap. *Water* freely in sum. *Propagate* green-leaved kind by seeds sown ⅛ in. deep in sunny border outdoors in Ap.; green and variegated sorts by cuttings 6 in. long, removing leaves from lower half, inserted in shady border in spring or sum.; also by layering strong shoots in sum.

Rosemary (*Rosmarinus officinalis*)—see Rosmarinus.

Rulingia—see Anacampseros.

Saintpaulia African Violet.—*Ord.* Gesneriaceæ. Warm greenhouse perennial. *Nat.* Africa. *Int.*, 1894. *Ht.* 3 in. *Species* cultivated 1, (*S. ionanthe*). *Flowers*, violet; Oct. to Ap. *Compost*, equal parts of loam, leaf-mould, peat & sand. *Pot*, Feb. to May. *Size of pots*, 3 in. for small & 4½ in. for large plants. *Pots* to be well drained. *Water* freely from Ap. to Sept.; moderately afterwards. *Apply* weak liquid manure occasionally during flowering season. *Temp.*, Oct. to Ap., 53° to 60° ; Ap. to Oct. 65° to 75° *Propagate* by seeds sown thinly on surface of a compost of equal parts peat, leaf-mould, loam & sand in well-drained pots or shallow boxes. Cover seeds with a sprinkle of fine sand ; shade from sun & place in temp. of 65° to 75° in spring.

Sauromatum (Monarch of the East).—*Ord.* Aroideæ. Half-hardy perennial, with tubercus roots & arum-like flower spathes. *Nat.* Central Asia. *Species* cultivated, 1 (*S. gutattum*). *Ht.* 18 in. *Flowers*, yellowish orange-red, spotted with dark red; spring. *Culture*: Purchase tubers in autumn, place them in a dry saucer in a warm room, & in a few weeks the flower spathe will appear. No soil or water needed. After flowering, plant the tuber in a moist place outdoors to make its leaf growth. *Lift* in Aug., keep in a cool place, & and again place in a saucer indoors. Repeat the operation year by year.

Schubertia Grandiflora—see Arauja for culture, p. 435.

Sour Sop (*Anona muricata*)—see Anona.

South African Harebell (*Roella ciliata*)—see Roella.

Spanish Iris (*Iris Xiphion*)—see Iris, p. 181.

Stachys (Woundwort, Chinese Artichoke).—*Ord.* Labiatæ. Hardy perennials & tuberous-rooted vegetables. *Nat.* Siberia, Mexico, & N. China; *Ht.* 1 ft. to 2 ft. CHINESE ARTICHOKE (*S. tuberifera*): *First* introduced 1877. *Ht.* 9 in. to 15 in. *Tubers*, white. spiral in shape; 1 in. to 2 in. long & ¼ in. thick. *Soil*, ordinary, deeply dug. *Position*, sunny. *Plant* tubers 9 in. apart, 4 in. to 6 in. deep, in rows 18 in. asunder in Mar. or Ap. *Stir* surface of soil between rows frequently. *No earthing up* required. *Lift* tubers in autumn as required for use. *Cover* surface of ground in severe weather with litter. HARDY PERENNIALS (*S. lanata* & *S. coccinea*) : *Flowers* of *S. coccinea*, scarlet. *Leaves* of *S. lanata* woolly. *Soil* ordinary. *Position*, shady border for *S. coccinea* ; edgings to borders or beds for *S. lanata*. *Plant* autumn or spring. *Propagate* by division in autumn or spring.

Stanleya.—*Ord.* Cruciferæ. Hardy perennial herb. *Nat. California. Species* cultivated, 1 (*S. pinnatifida*). *Ht.*, 3 to 4 ft. *Flowers*, yellow; summer. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. or Ap. *Propagate* by seeds sown in gentle heat in spring, planting out in May or June; also by division of the roots in Oct. or Mar.

Strawberry-Raspberry.—A so-called hybrid, between a strawberry & a raspberry. Professor Caird of Rhode Island, U.S.A., however, says it is not so, but a species of blackberry named *Rubus rosæfolius*, a native of Japan. It is not considered to possess any valuable merits in America, & not having made satisfactory progress here, is hardly worthy of cultivation in English gardens.

Stenactis—see Erigeron, p. 123.

Stenotaphrum (Variegated Grass).—*Ord.* Gramineæ. Greenhouse ornamental-leaved grass. *Nat.* Carolina. *Int.* 1822. *Ht.* 6 to 8 in. *One* kind only cultivated—glabrum variegatum. *Leaves*, narrow, grass-like, striped with yellow. *Compost*, equal parts peat, loam, leaf-mould & sand or

Jadoo fibre. *Position*, warm & moist part of greenhouse. *Pot*, Mar. *Water* copiously Mar. to Sept., fairly freely Sept. to Mar. *Temp.* Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots, or by division of roots in spring.

Stylophorum.—*Ord.* Papaveraceæ. Hardy herbaceous perennials. *Nat.* U.S.A. and Japan. *Ht.* 9 to 18 in. *Species* cultivated, 2. *Flowers*, yellow; June. *Soil*, ordinary, light. *Position*, sunny borders. *Plant* in Mar. or Ap. *Propagate* by seeds sown outdoors in April; by division in March.

Sugar Cane Begonia (*Begonia manicata*)—see Begonia, p. 27.

Sugar Corn (*Zea saccharata*)—see Zea.

Summer Cypress (*Kochia scoparia*)—see Kochia.

Sweet Corn (*Zea saccharata*)—see Zea.

Sweet Sop (*Anona squamosa*)—see Anona.

Thuia—see Thuya, p. 390.

Thuiopsis—see Thuyopsis, p. 390.

Transvaal Daisy (*Gerbera Jamesoni*)—see Gerbera.

Tree Tomato (*Cyphomandra betacea*—see Cyphomandra, p. 93.

Tricholæna Rosea.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.* 2 ft. *Infloresence*, rose-coloured, borne in spikes; pretty for bouquets. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds out-doors in Ap. *Gather* & dry when in flower for winter use.

Trumpet Ash.—(*Bignonia & Tecoma*)—see pp. 29 & 385.

Tulbaghia.—*Ord.* Liliaceæ. Greenhouse perennial herbs. *Nat.* Cape of Good Hope. *Int.* 1774. *Flowers*, greenish purple or violet, garlic scented; summer. *Species* cultivated, 4. *Culture*, grow in equal parts sandy peat and loam in pots in cool greenhouse. *Pot* in Oct. or Nov. *Water* very little till new growth begins, then more freely. Place in sunny cold frame after flowering, and remove into greenhouse in autumn. *Propagate* by offsets in autumn or spring; by seeds in spring.

Turnip-rooted Celery—see Celery, p. 55.

Ungernia.—*Ord.* Amaryllideæ. Hardy bulbous-rooted plant. *Nat.* Afghanistan, *Ht.* 6 to 12 in. *Species* cultivated, 1 (*U. trisphæra*). *Flowers*, red; sum. *Culture*, same as for Lycoris, which see.

Urospermum.—*Ord.* Compositæ. Hardy perennials. *Nat.* S. Europe & S. Africa. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties, 2. *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, sunny borders. *Plant* autumn or spring. *Propagate* by seeds sown outdoors in March or April, planting out seedlings later.

Vancouveria.—*Ord.* Berberidaceæ. Hardy herbaceous perennial. *Nat.* California. *Int.* 1827. *Ht.* 9 in. *Species* cultivated, 1. *Flowers*, lilac; spring. *Soil*, peaty. *Position*, moist and sunny rockery. *Plant*, Ap. *Propagate* by division of roots in Ap.

Venus Lily (*Buphane ciliaris*)—see Buphane.

Vernonia.—*Ord.* Compositæ. Stove and hardy herbaceous flowering plants. *Nat.* S. America, E. Indies, S. Africa, N. America, Mexico & Nepaul. *First int.*, 1710. *Ht.*, 1 to 12 ft. *Flowers*, lilac, white, & purple; summer & autumn. CULTURE OF STOVE SPECIES: *Compost*, two parts sandy loam, one part leaf-mould & silver sand. *Position*, pots in shady stove. *Pot*, Mar. or Ap. *Syringe* freely morning & evening in summer. *Water* freely in spring & summer; moderately, autumn & winter. *Prune* into shape Feb. or early

Mar. *Temp.*, Oct. to Mar., 55° to 65°.: Mar. to Oct., 75° to 85°. CULTURE OF HARDY SPECIES: *Soil*, rich, sandy loam. *Position*, sunny borders. *Plant*, Mar. or Ap. *Top-dress* with decayed manure in spring. *Propagate* stove species by seeds sown in sandy loam & peat, in a temp. of 75° to 85° in spring: by cuttings in pure sand or sandy loam & leaf-mould under a bell glass, or under a propagating frame in spring or summer; also by division of the roots at potting time; hardy species by seeds sown in sandy soil in a cold frame in Mar. or Ap., or outdoors in a sunny border in Ap.; also by division of the roots in Mar. or Ap.

Water Lilies—see Nymphæa, p. 257, and Nuphar, p. 257.

West Indian Kale (*Colocasia esculentea*)—see Colocasia, p. 374.

White Cedar—*Chamæcyparis* genus, which see.

Whitloof (*Cichorium intybus*—see Chicory, p. 62.

Withania (Pampas Lily of the Valley).—*Ord.* Solanaceæ. Hardy herbaceous perennial climber. *Nat.* S. America. *Ht.* 20 to 30 ft. *Species* cultivated, 1. *Flowers*, white; sum. *Soil*, ordinary. *Position*, sunny arbours, trellises, fences, etc.; specially adapted for seaside gardens. *Plant* Mar. or Ap. *Cut* down stems in autumn. *Propagate* by division of roots in Mar. or Ap.

Yellow Asphodel (*Asphodeline lutea*)—see Asphodeline, p. 20.

Zizania (*Canadian Rice*)—Ord. Gramineæ. Hardy annual flowering grass. *Nat.* N.W. America. *Int.*, 1886. *Ht.*, 7 to 9 ft. *Inflorescence* borne in large panicles in summer. *Soil*, ordinary. *Position*, margins of lakes, ponds or streams. *Sow* seeds in mud where required to grow in March or April. Will reproduce itself freely from seed after first year. Also known as Water Oats. *Species* cultivated, 2 (*Z. aquatica* and *Z. latifolia*.)

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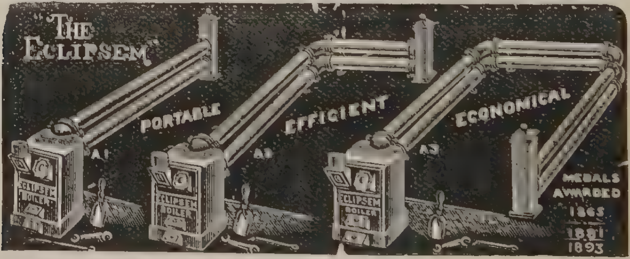

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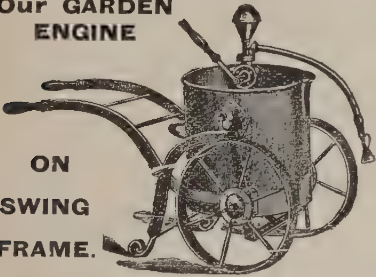

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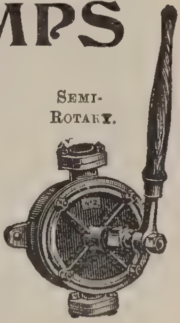

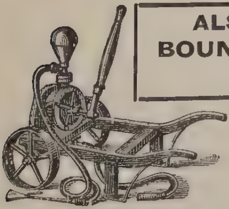

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